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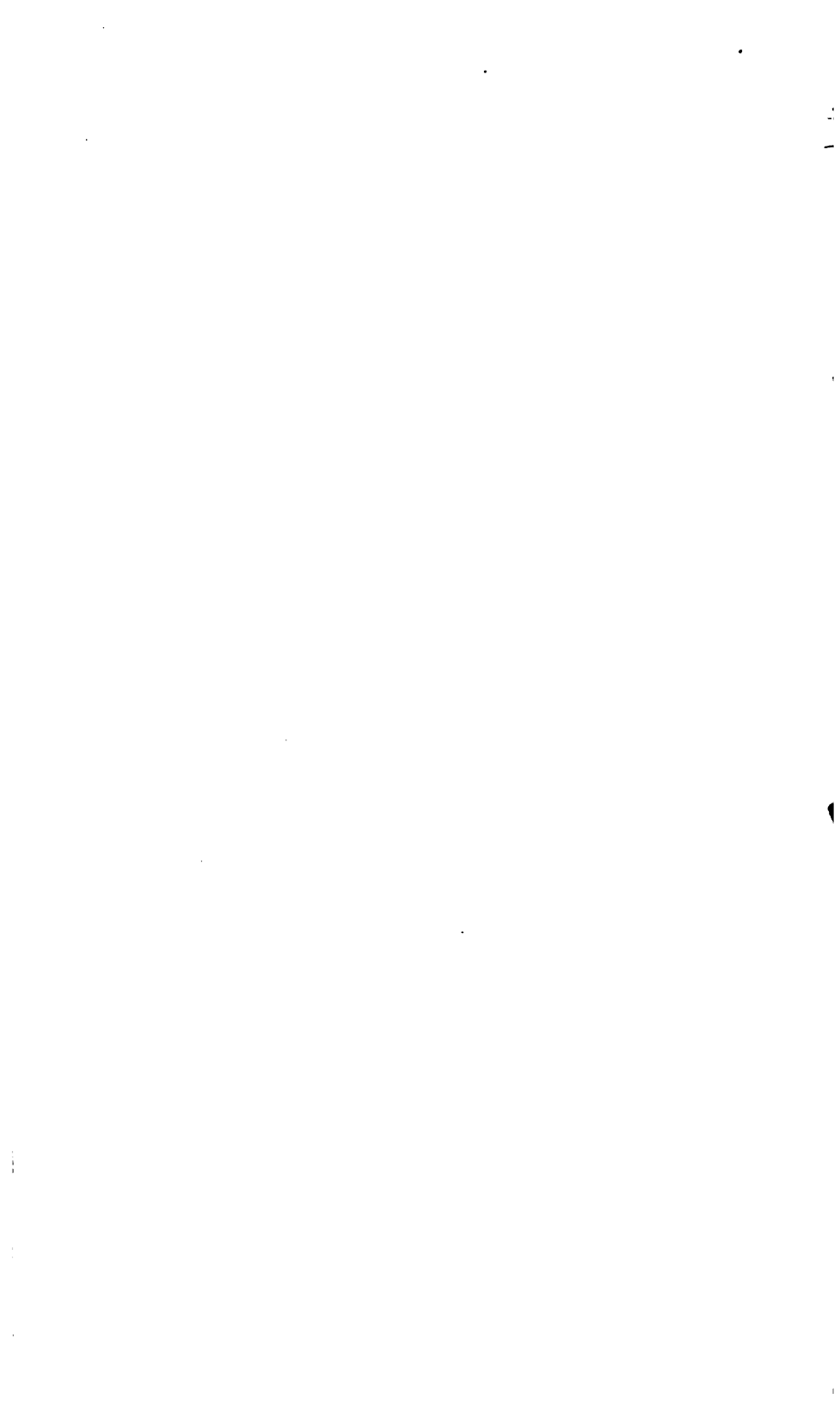
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1869-70.]

CITY DOCUMENT.

[No. 28.

QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

JANUARY 1,

1870,



PROVIDENCE:
MILLARD & HARKER, PRINTERS TO THE CITY,
1870.

QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

JANUARY 1,

1870,



PROVIDENCE:
MILLARD & HARKER, PRINTERS TO THE CITY,
1870.

△
Eng 1070.712.10
✓



E. D. Leavitt

THE CITY OF PROVIDENCE.

The WATER COMMISSIONERS present their first quarterly report for the quarter ending January 1, 1870.

Read: whereupon it is *ordered*, that the same be received and printed in pamphlet form, under the supervision of the Standing Committee on Printing

Passed by the City Council and approved January 14, 1870.

A true copy, witness:

SAMUEL W. BROWN, City Clerk.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

MOSES B. LOCKWOOD, PRESIDENT,
CHARLES E. CARPENTER,
JOSEPH J. COOKE, SECRETARY.

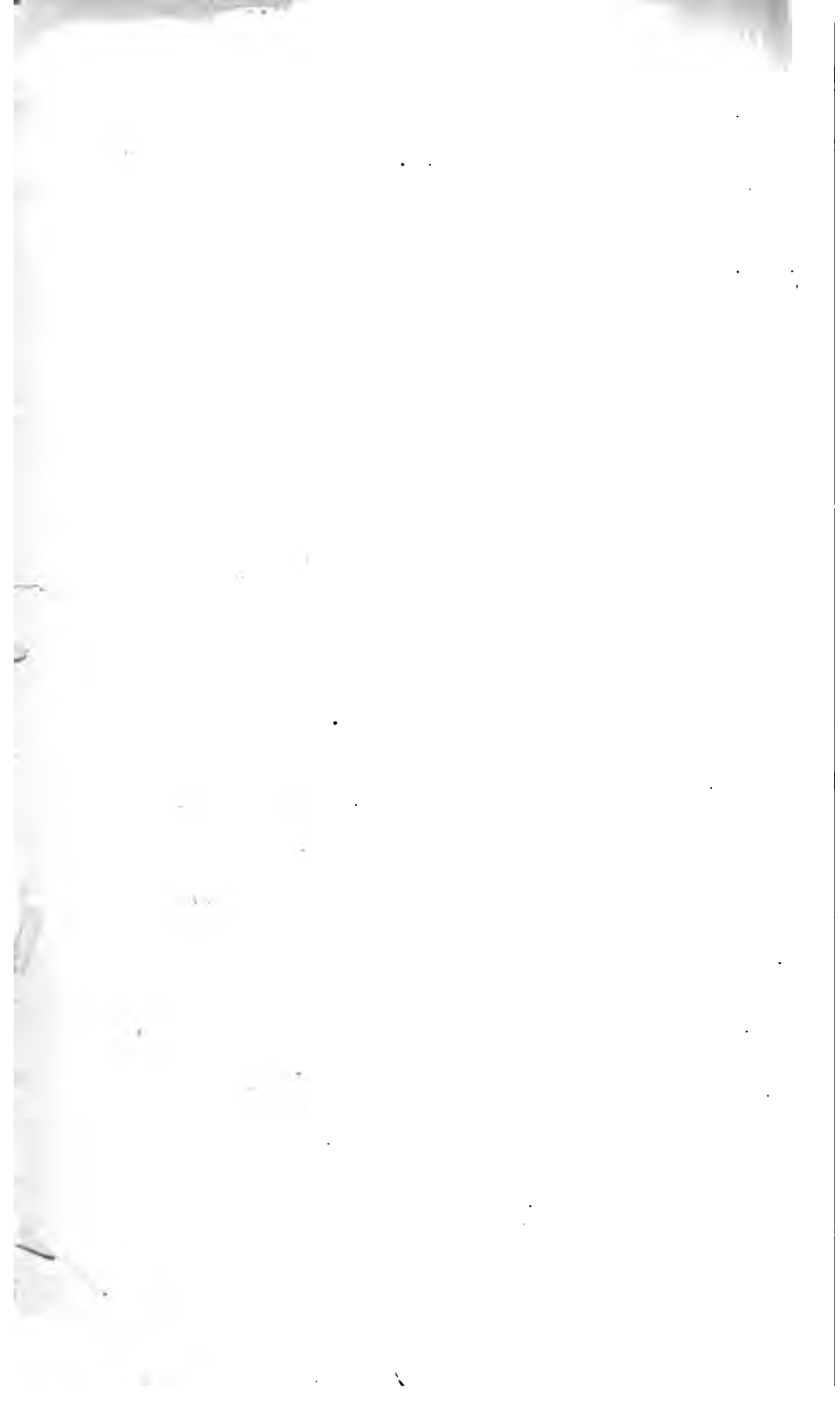
CHIEF ENGINEER,

J. HERBERT SHEDD.

Office in Wood's Building, corner of South Main and College streets.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS.
Providence, January 1, 1870.

To the Honorable City Council:

The undersigned Water Commissioners, beg leave to present this their First Quarterly Report, as required by the ordinance under which they were elected on the 27th of September last.

The Commissioners met on the 29th of the same month and organized by choosing unanimously, Moses B. Lockwood, President, and Joseph J. Cooke, Secretary.

On the second of October, after examining such rooms as were offered in the central part of the city, they contracted with Marshall Woods for four rooms on the first floor above the basement in his building on the corner of South Main and College streets, on a lease for three years from the 27th of September, at an annual rental of one thousand dollars, with a reservation permitting the commissioners to terminate the lease at an earlier day, in case the city by the erection of a City Hall, should furnish them accommodation therein.

On the same day, J. Herbert Shedd, of Boston, who was employed by the late water committee of the City Council, was unanimously elected chief engineer, with a salary of six thousand dollars per annum, with the understanding that he should reside in Providence and devote his whole time to the service of the Commission. S. Barrett Cushing was appointed consulting engineer, without salary, but to be compensated according to services rendered.

The Commissioners have also appointed Josiah Brown, of Fall River, first assistant engineer, at a salary of four thousand dollars

per annum; and Charles H. Pierce, of Westboro', Mass., and Charles H. Swan, of Salem, assistant engineers, at fifteen hundred dollars each per annum. Mr. Swan has accepted the appointment, but has not yet entered upon its duties. They have admitted into the engineers' office four students or assistants, at three hundred dollars each, for the first year, four hundred for the second, and five hundred for the third year. The chief engineer is also authorized to employ such temporary assistance as may from time to time be required.

Notwithstanding the very careful examinations made by the committee of the City Council, as shown in their recent report, the commissioners, with the chief engineer have found it necessary to spend much time and labor in studying and surveying for the purpose of perfecting working plans—"for introducing water into the city from the Pawtuxet river, above Pochasset brook," as provided in the ordinance under which they are acting.

After a careful examination of the river and the adjacent country, the commissioners did not hesitate to adopt Sockanosset hill as the most eligible location for a reservoir. The hill is about one hundred and eighty feet above tide water, and is nearly one mile from the point selected for a pumping station. The soil and rocks of the hill bear a close resemblance to those of Prospect hill in Providence, viz: hard pan, varying from five to twenty feet in thickness, overlying carboniferous slate and shale.

Two important questions required early consideration.

First. Shall the pumping be done by steam or by water?

Second. Are filter beds necessary?

Mr. Shedd, in his report to the committee of the City Council, discussed the question of power for pumping, and recommended steam on the ground, principally, that the requisite water power does not exist. Sockanosset hill is one hundred and eighty feet high, as already stated, and the available fall on the Pawtuxet river is not over twelve feet. It is therefore safe to say, that more than twenty gallons of water will be required to pump one gallon into the reservoir. It at once becomes evident to those who have had any acquaintance with the Pawtuxet river during the dry season, that the stream is entirely inadequate to furnish every day in the year two hundred and forty million (240,000,000) gallons for power, in addition to twelve million gallons (12,000,000) needed for the use

of the city. It follows that if water power is used, steam must be used also, involving the necessity of constructing two complete sets of machinery, and a large expenditure for the purchase of the water power. To avoid unnecessary expense, and to insure a full supply at all times, the commissioners have voted unanimously to pump entirely by steam.

The second question "are filter beds necessary?" has received the most earnest consideration of the board. Differing widely at the outset, the commissioners discussed the subject of filtering almost daily for weeks together.

Shall the water be filtered before being admitted into the pipes for distribution? The off-hand answer will undoubtedly be—"certainly, by all means," and there is no doubt that the first impulse, acting toward increased purity, is in the right direction. Nevertheless these important facts present themselves. There is not a city in the United States supplied with *filtered* water, and there is no city in the United States of much size, that has introduced water as *pure* as the water of the Pawtuxet river.

Mr. Shedd, in his able report on "the best sources of supply of pure water," gives a table showing the number of grains of impurity in a gallon, from many of the lakes and rivers, which furnish water for cities. From that table the following are selected:

Croton, New York, contains per gallon,	-	10,60 grains,
Lake Michigan, Chicago, contains per gallon,	-	8,01 "
Passaic River, Jersey City, contains per gallon,		7,44 "
Schuylkill, Philadelphia, contains per gallon,	-	5,50 "
Jamaica Pond, Brooklyn, N. Y., contains per gal.,		4,40 "
Mystic Pond, Charlestown, Mass., contains per gal.,		3,65 "
Lake Cochituate, Boston, contains per gallon,		3,37 "
Connecticut River, Hartford, contains per gallon,		2,56 "
Pawtuxet River, Providence, contains per gallon,		2,14 "

Pawtuxet river, it thus appears, contains the least of all, there being only about one fifth as much impurity as in the Croton of New York. The water in the well on the Town House lot, which is so much used and so much esteemed, contains by the same authority 24,57 grains per gallon, more than eleven times as much as the water of the Pawtuxet. It would seem, therefore, that, while other cities with water, three, four and five times more impure than ours, do not deem it necessary to filter, we might with propriety omit it, at least for the present.

Filtration of water for some European cities seems to be absolutely necessary, in order to fit it for domestic use. Whoever is acquainted with the water of the Thames, knows that it is offensive alike to the sight, the smell and the taste. The effect of filtration then is consequently very marked, so that filter beds could not safely be dispensed with.

The city of St. Louis, which has new works in the process of construction, sent Mr. J. P. Kirkwood, an able American engineer, to Europe to study the whole subject of filtration. Mr. Kirkwood had every facility extended to him for examining the construction and inspecting the working of filters both in England and on the continent, and has recently published a very full report describing the construction, mode of operating and cost of the principal filtering arrangements in Europe. So accustomed, however, are the people of St. Louis to the use of *river* water, preferring it, however turbid it may be, to clear spring water highly charged with lime; that, in view of the serious cost of adding filter beds to their expensive works, the commissioners have decided to omit them for the present. They have so planned their works, however, as to render their addition as easy as possible.

Whilst there is nothing mysterious about filter beds, they are expensive in construction, and require great care in management, and it is a noticeable fact that they are seldom advocated by those engineers who have charge of the practical operation of water works. Besides, filtration does not render water *perfectly* pure. The experiments of the chief engineer, here and in Lowell, show that perfectly clear water is not always attainable. With the water of the Pawtuxet, from its great purity, and the exquisite fineness of the coloring matter in suspension, so little is removed, that the visible effect is very slight. In times of disturbance by frochets, filter beds would no doubt remove most of the fine vegetable particles that come down the stream, as well as some considerable portion of the discoloration.

Filter beds for our works should extend over from three to five acres, according to the results required, and should be constructed of the depth of about fourteen feet, with perforated pipes or drains covering the bottom, and these again covered with broken stones, pebbles, coarse gravel, fine gravel, coarse sand and fine sand in the order named, the whole burying the pipes to the depth of five feet.

The surface must be smooth and level for the reception of the water. The cost is estimated to be not less than one hundred thousand dollars. The surface of the sand, when the works are in operation, must be removed every few weeks or months, as experience may show to be necessary, and be washed and returned or replaced by a fresh supply. Great care must be exercised by a person constantly in attendance, that the head be sufficient to pass the requisite quantity of water, and not so great as to force the sand down among the broken stones, as has occurred in some instances, in which cases the filters were destroyed, and had to be made over. The annual expense of operating the beds would be at least three thousand dollars, exclusive of contingencies.

Nevertheless, notwithstanding the superior purity of our water, the absence of filter beds in all American water works, the great expense of constructing and operating, and the imperfect results yet attained, the commissioners have by no means discarded the idea of filtration. On the contrary, they have so located the reservoir on Sockanosset hill that filter beds can be conveniently added, whenever experience shall show their necessity, or public opinion demand their introduction.

Happily, in some instances, nature has provided filter beds which may be made available in works of this kind; and it is probable that such is our case. The strata on Sockanosset hill, dip to the eastward, and the rocks pass under Pawtuxet river, perhaps at the depth of one hundred feet or more. Examinations have been made by boring from fifty to sixty feet. The space over the rocks is filled with drift, or rounded pebbles, sand and gravel, from which all clay has been washed. Upon this drift the river has made its bed. Those who were familiar with the cut through Smith's hill as it was excavated by the Providence and Worcester Railroad Co., will have a clear conception of what underlies the Pawtuxet river. Being free from clay, the drift is pervious to water, which percolates freely through the sand and gravel, and fills the basin to the level of the river.

Near the pumping station the bluff recedes from the margin of the river, leaving a low sandy plain, elevated but a few feet above the water. By excavating a portion of this basin to the depth of fifteen or twenty feet, it is probable that water enough will flow in through the sand to supply the pumps. The chief engineer has

this problem under consideration ; and should the plan, as is now hoped, prove practicable, our city will be supplied, at the outset, with spring like filtered water, of less variable temperature than the water taken directly from the river.

Instead of the open basin, in Europe extensive galleries have been constructed under the porous earth, through which water is collected for pumping and distribution. There is an advantage in filtering before pumping by reason of the diminution of wear on the pumps.

The committee of the City Council, in their Pawtuxet river plan, propose but one reservoir, that upon Sockanosset hill, five and four-tenths ($5\frac{4}{10}$) miles from Weybosset bridge. The chief engineer early suggested that provision be made for another, within the city, a suggestion which met the hearty approval of the board. The Halsey lands, near Hope and Olney streets are admirably adapted to the purpose, and measures have been adopted to secure the requisite area, before it is appropriated to other uses. With the Sockanosset and Hope reservoirs well filled, the city will have an ample available supply for all purposes

Nor will the additional cost be so great as might be supposed. With one reservoir the water would flow into the city only as it was required for use—rapidly during the day, and slowly at night. With the two, the current would be nearly uniform, and to the full capacity of the pipe for the whole twenty-four hours. It is manifest that a smaller pipe, with the water flowing uniformly day and night, will discharge as much water as a larger one, running to its full capacity only during the day. According to the calculations of the engineer, a thirty (30) inch pipe, with the Hope reservoir, will supply as much water as a thirty-six (36) inch pipe without it; and the difference in cost of thirty inch and thirty-six inch pipes he estimates at two hundred and twenty-five thousand dollars, a sum which it is thought will nearly purchase the land and construct the Hope reservoir. Besides, the plan, with two reservoirs will insure an ample supply of water *within* the city, and in case of fire will keep up a full head, having a constant current from two sources and thus for an emergency doubling the flow of water if required.

The engineers, since their appointments, have been busily at work upon their surveys preparatory to placing the work under contract,

so that ground may be broken early in the spring. It will be the endeavor of the commissioners to introduce water into the city in the fall of 1871, and the chief engineer has been requested to make all his arrangements accordingly.

A few lots have been purchased near Hope street, and negotiations have been commenced for buying such other lands as will be required for both the Hope and Sockanosset reservoirs. These purchases will be the chief item of expenditure for the next quarter, and the one hundred thousand dollars heretofore appropriated for the use of the Commissioners may be sufficient for that period.

The greatest expenditure for the works will be for pipes, which the engineer estimates at nearly two-thirds of the entire cost. Much, therefore, depends upon their purchase under favorable circumstances. It is also important that the pipes should be carefully and properly laid. In view of these and other facts, it is not improbable that the commissioners may find it to be their duty, to ask that the restrictions in relation to making contracts, contained in the second paragraph of the third section of the ordinance in relation to water commissioners and water works, be somewhat lessened as is evidently contemplated in the ordinance itself. But no action is asked at this time.

An abstract of the commissioners' accounts to December 31st, 1869, inclusive, is herewith annexed and made a part of this report.

Mr Cooke concurs in the above report in all particulars excepting such as relate to artificial filter beds. He objects "to the introduction of that subject as it cannot be said to be a practical question with the commissioners at the present time, having been superseded by the almost certain prospect of having a natural filter basin, which they are united in believing may answer a better purpose with less cost." He objects "to the essay on filtration as being partial and incomplete, especially as regards the moral necessity of filtering, in some way, the water which it is the duty of the commissioners to introduce."

Respectfully submitted,

M. B. LOCKWOOD,
CHAS. E. CARPENTER,
JOSEPH J. COOKE.

ABSTRACT OF THE ACCOUNTS OF THE WATER COMMISSIONERS
TO DECEMBER 31, 1869, INCLUSIVE.

Dr.

Office Furniture, Stoves, Gas Fixtures, &c.,	\$538 85	
Rent of Offices, - - -	162 50	
Books, Stationery, &c., - - -	194 04	
Fuel and Lights, - - - -	22 50	
Petty Office Expenses, - - -	10 37	
Janitor of Rooms, - - - -	18 00	
Traveling Expenses of Commissioners -	49 17	
Clerk's Salary, - - - -	140 32	
Commissioners' Salaries, - - -	1500 00—	2,635 75

ENGINEERING DEPARTMENT.

For Instruments, - - - -	422 50	
" Tools, - - - -	128 65	
" Advertising, - - - -	3 36	
" Office Furniture, Stoves, Gas Fixtures, &c.,	372 97	
" Books, Stationery, &c., - - -	189 31	
" Temporary Assistance, - - -	399 56	
" Labor, - - - -	258 84	
" Horse and Wagon Account, - - -	761 25	
" Horse-keeping, - - - -	36 84	
" Horse-hire, - - - -	111 00	
" Rent of Offices, - - - -	87 50	
" Fuel and Lights, - - - -	29 45	
" Janitor of Rooms, - - - -	19 50	
" Experimental Filter, - - - -	34 02	
" Sundries, - - - -	30 90	
" Salaries, - - - -	2,635 62—	5,521 27

\$8,157 02

Cr.

Approved Bills, - - - -	\$8,157 02
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1869-70.]

CITY DOCUMENT.

[No. 40.]

SECOND
QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

APRIL 1,

1870.



PROVIDENCE:
MILLARD & HARKER, PRINTERS TO THE CITY,
1870.

THE CITY OF PROVIDENCE.

The **WATER COMMISSIONERS** present their second quarterly report for the quarter ending April 1, 1870.

Read: whereupon it is *ordered*, that the same be received and printed in pamphlet form, for the use of the City Council.

Passed by the City Council and approved April 26, 1870.

A true copy, witness:

SAMUEL W. BROWN, City Clerk.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

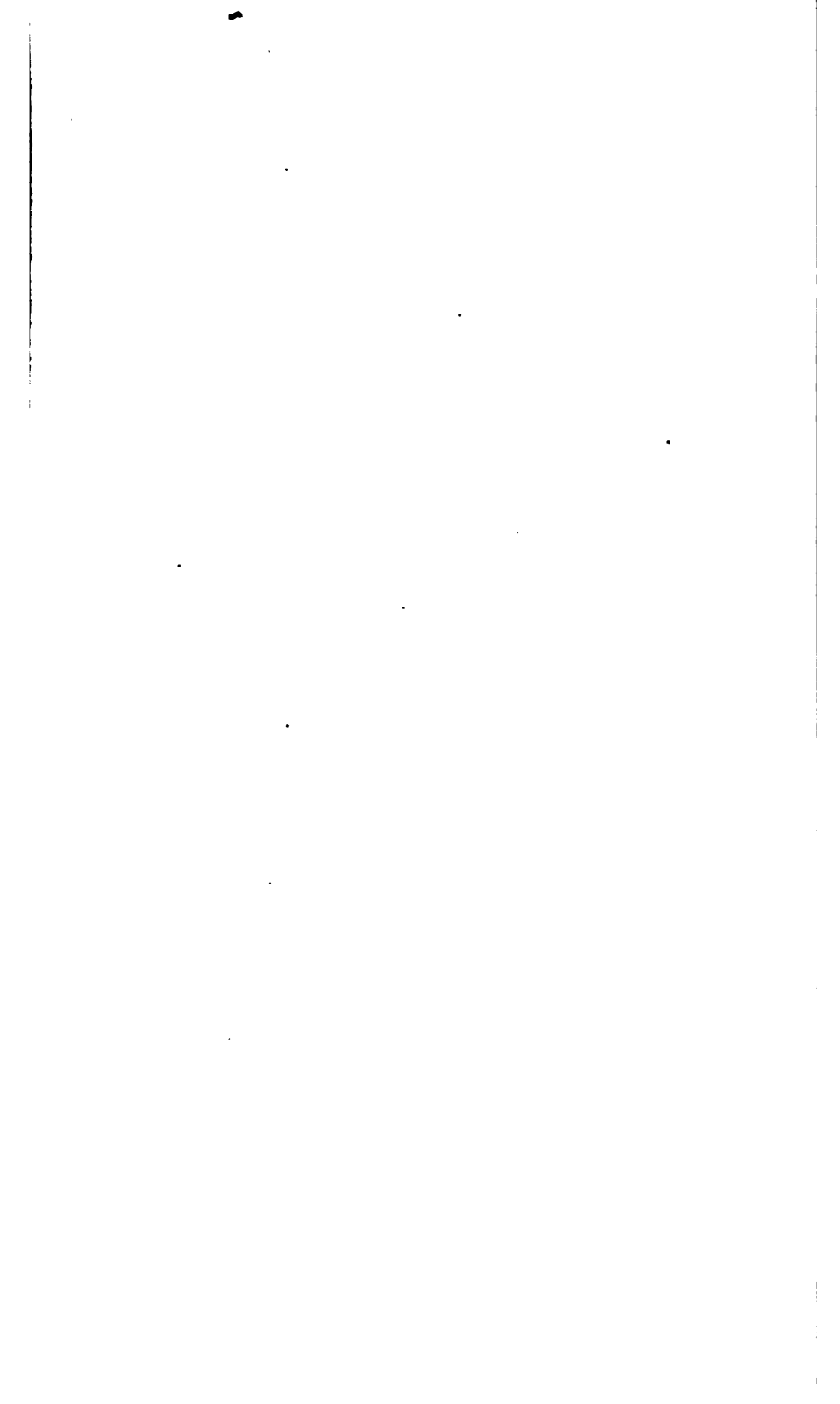
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office in Wood's Building, corner of South Main and Collège streets.

CONSULTING ENGINEER,

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS,)
Providence, April 1, 1870.)

TO THE HONORABLE CITY COUNCIL:

The Second Quarterly Report of the Water Commissioners is respectfully presented.

Since the previous report, the plans for the reservoir on Sockanosset Hill have been matured and adopted. In conformity to the contour of the hill, the reservoir will be pyriform, with the stem at the south. Its width at the base, fronting north, will be about eight hundred and sixty feet, and its length about one thousand feet. The inlet chamber will be at the south end, and the outlet chamber at the north-east extremity, nearest the city. The two chambers will be connected by a brick conduit built in the embankment, four feet in diameter and about nine hundred feet long; through which the water may be passed directly into the leading mains whenever the reservoir is drawn off for cleaning or repairs.

Sockanosset Reservoir will be mainly an earth-work, containing when full an area of water of eleven acres, and a depth of fifteen feet, with a water capacity of over fifty-one million gallons. Sufficient earth will be taken from within to form the embankment, which will be four feet above the water and fifteen feet wide on the top, with slopes of one and one-half horizontal, to one perpendicular. The top and the exterior slope will be grassed, and the interior slope lined with a dry wall fifteen inches thick, resting on a layer of broken stone six inches thick. The bottom will have a covering of "road metal," consisting mainly of broken stone six inches thick, thoroughly compacted by rolling. There will be three thirty-six inch iron

pipes leading into the inlet chamber, and three leading from the outlet chamber, with gates so arranged that each pipe may be opened and closed at pleasure, to connect either with the reservoir or conduit. One only of these pipes will at first be required. These chambers will be built of rubble masonry, the interior being lined with brick and the exterior faced with granite, and over them will be erected neat and substantial gate-houses.

The entire work will cover fourteen acres. A road fifty feet wide and very nearly one mile in length has been laid out, enclosing the reservoir and land for its enlargement or for filter-beds, should they ever become necessary.

Having been unable to purchase, at what seemed to them a reasonable price, the lands necessary for this work, the Commissioners have taken, by authority of the act of the General Assembly, passed at the January session, A. D., 1866, entitled "**An Act to supply the City of Providence with pure water,**" 47.1226 acres, of which 32.044 acres were the property of Stephen B. Gardiner; 12.2054 acres of the heirs of the late Joseph Harris; and 2.8732 acres of Joseph S. Budlong. A "Plat of the Estates on Sockanosset Hill, Cranston, taken for Reservoir purposes," has been deposited in the Town Clerk's Office in that town, in accordance with the Water Ordinance.

The Commissioners are indebted to the Honorable Town Council of the Town of Cranston, for altering the location of a portion of the road over Sockanosset Hill, so as to avoid the site chosen for the reservoir. George H. Norman, of Newport has taken the contract to make the new road, for thirty-five hundred dollars and a nominal sum for rock excavation, if any. This road forms a portion of the one mentioned above as passing around the reservoir.

The standing wood on the land taken from the heirs of the late Joseph Harris, after being duly advertised, was sold at auction on the 12th day of February, for fifty-four dollars per acre.

Specifications for the construction of the reservoir have been carefully drawn and printed, and proposals for doing the work solicited by advertising in New York, Boston, and this city. The bids will be opened on 12th instant, and it is expected that the work will be put under contract at much less than the original estimates.

The requisite lands have been secured for Hope Reservoir. Eighty lots have been purchased, and thirty-one taken by authority of the act of the General Assembly, before named. Terms have been agreed upon with Moses B. I. Goddard, one of the trustees of the estate of the late Thomas Lloyd Halsey, conditioned upon the sanction of his absent co-trustee and the approval of the Court, (should the latter be necessary to perfect the title,) for seventeen of the lots so taken, and with John Wilson Smith, guardian of William O. Creighton, for four of the remaining lots, subject to the approval of the Municipal Court; leaving but ten lots, (belonging, when taken, to three persons,) of the one hundred and eleven lots required for the reservoir, for which the price is yet to be determined, either by negotiation or process of law. The total amount paid for the eighty lots of which deeds have been received, is \$92,541 45—the amount to be paid under the above named agreements is about \$22,000—making together, say \$114,600. Deducting \$3,700, allowed for improvements on seven lots purchased of Miss Julia Bullock, and adding to the area of the lots the area of platted streets closed, in excess of the area of a street to be opened on the westerly side of the reservoir, the average price is about 16½ cents per square foot; a rate probably more than the actual market value, yet, under the circumstances, perhaps not exorbitant. It is not the intention of the Commissioners to commence the construction of this reservoir the present year.

The estate purchased of Miss Bullock has been rented by verbal agreement to Thomas Hannay for three hundred dollars per annum, payable quarterly. The rent commenced on 1st March.

On the 11th of February the Commissioners advertised for about three thousand tons of cast iron pipes of the various sizes, from six inches to thirty-six inches in diameter, and on the 4th of March eight bids were received and opened, and it appearing that the bid of George H. Norman, averaging a little less than \$52.50 per ton, (2,240 lbs.,) was the lowest, the contract was thereupon awarded to him, and it was subsequently duly executed. The price is believed to be a fair one, and is thirty per cent. lower than the price estimated by the Committee of the City Council in 1868. A. B. Purdy, of Brooklyn, N. Y., has been appointed superintendent of pipe work with a salary of fifteen hundred dollars per annum. He has had much experience in the duties of his department. It is

the intention to commence laying the mains as soon as the pipes are received.

Having completed his plans for Sockanosset reservoir and his formulæ for the shape, dimensions and weight of the pipes, so as to meet the approval of the Commissioners, the Chief Engineer is now devoting his time and thoughts principally to the pumping station, with its wells, engines, buildings, etc. This is an exceedingly important part of the work, and much depends upon its successful treatment. To procure stable foundations requires the utmost care, there being more or less quicksand to contend with. It has also been found that there is underlying most of that vicinity, a bed of what is called in the neighborhood, "blue clay." It is, when compacted, nearly impervious to water, but when wet and unconfined, almost as fluid and unstable as oil. It is presumed, however, that the engineering skill which the Commissioners have at their command will be able to overcome all difficulties which may arise. When the plans are fully matured, so as to avoid any false step, the work will be commenced with the least possible delay.

The Commissioners have been obliged to add to the accommodations of the Engineering department, two rooms in the fifth story of the building which they occupy, at a rent of one hundred and fifty dollars per year.

A third appropriation of one hundred thousand dollars may be asked for before the close of the present quarter.

An abstract of the accounts of the Commissioners to March 31, 1870, inclusive, is hereunto annexed and is made a part of this report.

MOSES B. LOCKWOOD,	}	<i>Water Commissioners.</i>
CHARLES E. CARPENTER,		
JOSEPH J. COOKE,		

REPORT OF WATER COMMISSIONERS.

9

ABSTRACT OF THE ACCOUNTS OF THE WATER COMMISSIONERS, MARCH 31ST, 1870, INCLUSIVE.

DR.

Hope Reservoir, for land, -	-	\$92,541 45
Office Furniture, stoves, gas-fixtures, &c.		547 41
Rent of offices, -	-	325 00
Books, stationery, &c.	-	216 49
Fuel and lights, -	-	58 60
Petty office expenses,	-	10 37
Janitor,	-	38 00
Traveling expenses of Commissioners,	-	49 17
Clerk's salary, -	-	290 32
Commissioners' salaries,	-	3,000 00
Sundries, -	-	10 89
Printing. -	-	187 74
Advertising, -	-	823 56

\$98,099 00

ENGINEERING DEPARTMENT,

For instruments,	-	\$438 50
Tools, -	-	142 95
Advertising, -	-	3 36
Office furniture, stoves, gas fixtures, &c.,		589 66
Books, stationery, &c., -	-	250 90
Temporary Assistance,	-	602 21
Labor, -	-	280 27
Horse and wagon account,	-	761 25
Horse keeping, &c., -	-	118 22
Horse hire, -	-	130 00
Rent of offices, -	-	212 50
Fuel and lights, -	-	96 45
Janitor, -	-	51 00
Experimental Filter,	-	91 08
Carried forward, -	-	<u>\$3,768 35</u>

CITY OF PROVIDENCE.

Amount brought forward,	-	-	-	\$3,768 35
Sundries,	-	-	-	67 03
Salaries,	-	-	-	6,082 88
Boring,	-	-	-	1,565 51
Consultations,	-	-	-	120 00
				<hr/>
				11,603 77
				<hr/>
				\$109,702 77

CR.

Approved Bills,	-	-	-	-	\$109,702 77
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THIRD
QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,
JULY 1,
1870.



PROVIDENCE:
PRINTED BY THE PROVIDENCE PRESS COMPANY.
1870.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

Office, No. 10 Woods' Building, corner of South Main and College Streets.

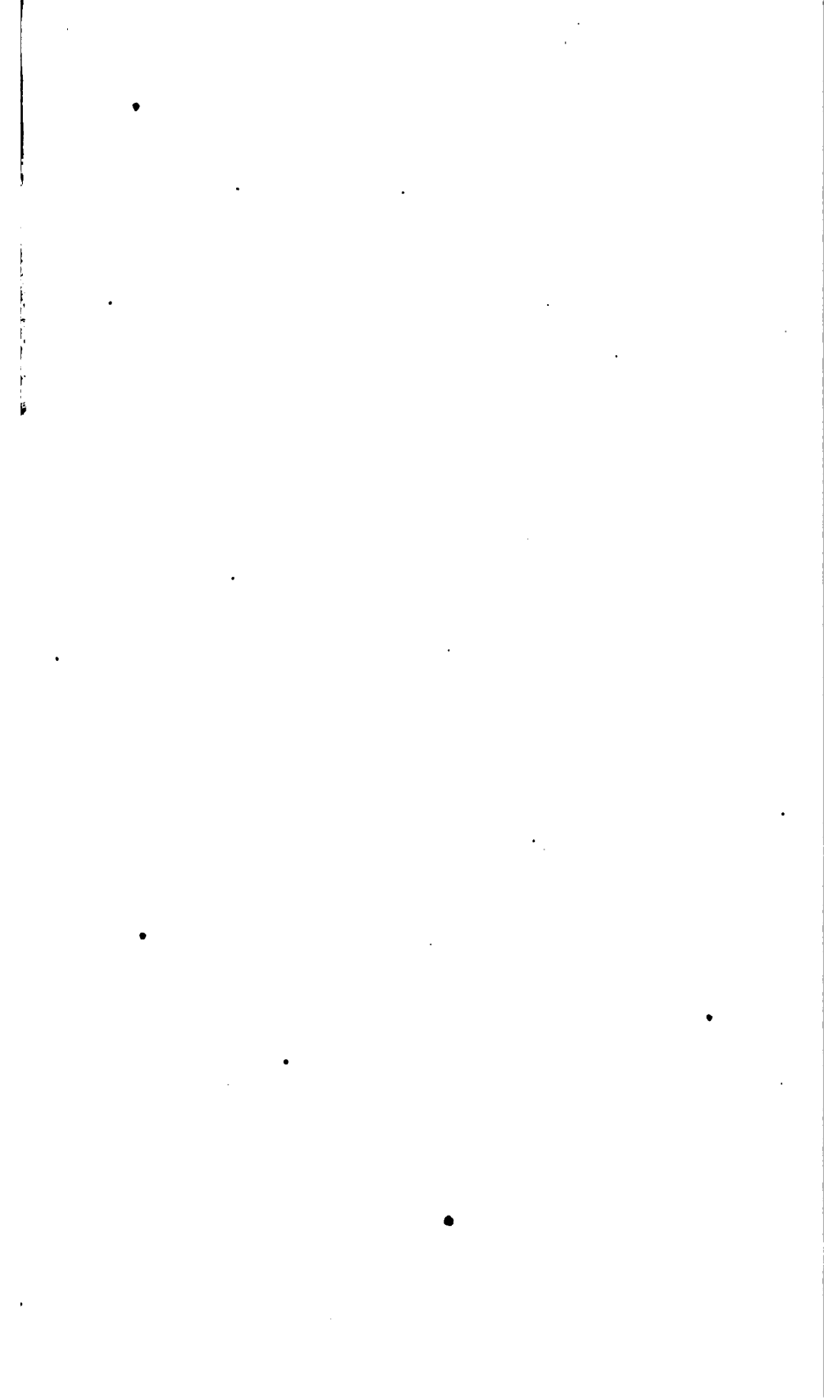
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office, No. 7 Woods' Building, corner of South Main and College Streets.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
Providence, July 1st, 1870. }

TO THE HONORABLE CITY COUNCIL :

The Water Commissioners respectfully submit their Third Quarterly Report.

The water for the supply of the city is to be taken from the Pawtuxet river, upon an interval below the village of Pontiac. The bottom lands in this vicinity were called by the aborigines, "Pettaconset," a name which the Commissioners propose to perpetuate by its application to the locality around the pumping-station.

Pettaconset will have an engine-house, boiler-house, coal-sheds, and such dwelling-houses as may be necessary to accommodate engine-men, stokers, and other laborers required to keep the place in proper order, so as to present at all times the appearance of cleanliness and purity. The engine-house is designed to be about 112 feet long, and about 48 feet wide, with a projection in the centre on each side, and is to be built of brick or stone. It will be large enough to receive four Cornish engines, each capable of pumping nine million-gallons in twenty-four hours. But one engine will be contracted for at first, to be followed by a second immediately after the successful working of the first shall have been demonstrated by experience. It is supposed that some years will elapse before a third will be needed. The designs for the engines are in progress, but have not been so nearly completed as to determine the exact size of the building; so that the Commissioners have not yet been able to contract for either building or engines. Lebbeus B. Ward, of Jersey City, was appointed an assistant engineer on the 27th of April, at a salary of three

thousand dollars a year, and his whole time is now employed upon the plans for the engines. The pumping arrangements are the most important as well as the most difficult part of the work, and delay in them is much to be preferred to gross defects or failure. Should it be found that the large Cornish engines cannot be put in operation by the latter part of next year, a smaller engine of some other construction, suitable for the Hope pumping-station, may be temporarily placed directly upon the bank of the river for raising the water into Sockanosset reservoir, until the permanent engines are completed.

Excavation is in progress for the engine-house and for grading the line of force-mains, which convey the water from the engines to the reservoir in nearly a straight line. The force-mains will be of cast iron, three feet in diameter in the clear, and will eventually be three in number. The grade will be such as to insure a continuous rise through the whole distance of about 5,200 feet, thus avoiding collections of air which would impede the easy flow of the water. Contracts have been made with Boynton Brothers & Elsbree for a large portion of the excavation and embankments, and this part of the work is progressing satisfactorily.

Three culverts are necessary to pass the waters from the adjacent lands under the force-mains, and a bridge is required over the force-mains to accommodate the travel on the Pontiac road. The culverts are to be of brick with granite abutments and wing-walls, and are to be laid in cement. Their internal diameters are to be five feet, five feet and four feet, respectively. The bridge is to have a span of about 20 feet, and is to be 24 feet wide. It is to be built of southern pine, and is to have abutments of dry rubble masonry. The contract for the culverts and bridge was awarded to John Howe and David Hall, who have a small force on the work and are not proceeding with sufficient rapidity to warrant the expectation that it will be completed by the first of August, the time specified in the contract.

The contract for the construction of Sockanosset reservoir (for a description of which see the last quarterly report) was awarded on the 13th of April to James McDonald, of Albany, New York, and Albert R. Learned, of Pittsfield, Massachusetts. The work was commenced on the 4th of May, under the immediate oversight of Mr. McDonald, with a degree of energy which encourages the expectation that it will be completed within the time specified, September 1,

1871, and in accordance with the contract. A "strike" occurred on the 27th ultimo, which at first assumed a somewhat threatening appearance. No violence, however, was committed. Aid was promptly furnished by His Honor, Mayor Doyle, who visited the ground in person. The men were paid by Mr. McDonald on the 29th, on which occasion the police were again in attendance. A few of the men have again commenced work, but it is not expected that much will be done until after the 4th instant. The cost of this reservoir, including gate-houses, will be at least one hundred and fifty thousand dollars.

The new road over a portion of Sockanosset hill has been nearly finished, under the contract with George H. Norman.

The leading-mains for conveying the water from Sockanosset reservoir will run nearly in a straight line from the north-easterly extremity of the reservoir to a point on the New London turnpike, (so called) about 1,900 feet this side of Pochasset river, and thence follow the turnpike into the city. The grading on this line will be shortly put under contract.

In addition to the 3000 tons of iron pipes purchased by contract of George H. Norman, as mentioned in the last Quarterly Report, the Commissioners have contracted with the Warren Foundry and Machine Company, of Phillipsburg, New Jersey, for 4300 tons, from 24 inches to 36 inches in diameter. Under these two contracts, pipes are to be delivered before the first of December next, sufficient for one force-main and one leading-main through the city to Hope reservoir, besides smaller sizes for the central section of the city. The first shipment, made by the Warren Foundry and Machine Company, arrived yesterday, and advertisements will soon appear for proposals for laying pipe, in which it is expected that considerable progress will be made this season.

Horace G. H. Tarr, of Phillipsburg, was, on the 2d of April, appointed inspector of pipes to be made by the Warren Foundry and Machine Company, in that town, at a compensation of five dollars per day when inspecting pipes for Providence only, and three dollars per day when inspecting for others on the same day.

It is understood that a portion of the pipes will be cast at Camden, New Jersey. To inspect these, the Commissioners have appointed

Horatio L. Holmes, of this city, at a salary of \$1,500 per annum. He will reside in Camden.

By Mr. Norman's contract, the first delivery of pipes was to be made in May and the second in June, but none have yet been received.

By authority of law, the farm at Pettaconset, late the property of Lorey Stafford, deceased, spoken of in his will as the "Aldridge" farm, has been taken for the use of the water-works, and the parties in interest have been duly notified. The devisees, being minors, are not at present qualified to convey the property, (a guardian, however, has just been appointed,) and there are contingent interests under the will, which do not seem to be clearly defined. The farm, as taken, contains about ninety acres.

The entire farm on Sockanosset hill, containing about 101 acres, which belonged to Stephen B. Gardiner, a part of which was taken for the reservoir, has been conveyed to the city by Mr. Gardiner, for the sum of ten thousand dollars, and three lots of land which were owned by William O. Creighton, and were taken for Hope reservoir, have been deeded to the city by John Wilson Smith, guardian, with the sanction of the Municipal Court.

For landing and storing pipes and other materials and for building a temporary store-house and work-shop, the Commissioners have taken a lease for three years from the 1st of May last of a portion of the Providence Gas Company's wharf on the west side of the river, at an annual rent of seven hundred dollars. The building is to be twenty feet by fifty feet, and is to cost six hundred and ninety-seven dollars, by bargain with Dexter Gorton & Co., who have already erected two buildings used as offices by the engineers—one at Pettaconset and the other at Sockanosset, at an expense of nine hundred and fifty-six dollars and forty-six cents for the two.

The pasture lands, bought for Hope reservoir, have been rented for this season to James Sculley, for seventy-five dollars.

A satisfactory arrangement has been made with Messrs. B. B. & R. Knight, for the use of the telegraph poles on the Pontiac road for a wire to connect the office at Providence with the office at Pettaconset.

Samuel M. Gray, of Hartford, was appointed an assistant engineer on the 1st of April, with a salary of fifteen hundred dollars per

annum. Mr. Gray is the resident engineer at Sockanosset reservoir. William T. Schneider, of this city, has been appointed an assistant engineer at Pettaconset, at three dollars per day, and Laurence Bradford, late of Missouri, an assistant engineer at Sockanosset, at a salary of one thousand dollars per annum. George H. Slade, of Providence, has been appointed "student" in the engineering department, for three years, at a salary of three hundred dollars for the first year, four hundred dollars for the second year, and five hundred dollars for the third year.

The bleachery at Pontiac was burned in April, and the bleachery at River Point in May. The Commissioners took the earliest moment to call the attention of the owners of these establishments to the provisions of the statute in relation to defiling the waters of the Pawtuxet river, that in their arrangements for re-building, those provisions might not be thoughtlessly violated.

The Commissioners desire to call the attention of mill-owners on the Pawtuxet, to Section 7, of the "Act for supplying the city of Providence with pure water," which is as follows :

SEC. 7. If any person shall maliciously or wantonly divert the water of any of the said streams, or water sources from which water shall be introduced into said city as aforesaid, or shall corrupt or render impure the same, and any connected therewith, or shall destroy or injure any drain, pipe, aqueduct, conduit or machinery, or other property used in or relating to the premises, such person or persons, and his or their aiders or abettors, shall each forfeit to said city, to be recovered in an action of trespass, or trespass on the case, treble the amount of damage which shall appear on trial to have been sustained thereby, and shall also be liable to indictment therefor, and upon conviction shall be fined not exceeding five thousand dollars, or imprisoned not exceeding three years.

The amount required for the use of the Water-Works for the months of July, August and September, is estimated at \$200,000, in addition to the balance of former appropriations.

A list of bills approved and of receipts during the last quarter, and an abstract of the accounts of the Commissioners to June 30, 1870, inclusive, are hereunto annexed and made part of this report.

M. B. LOCKWOOD,	}	<i>Water</i> <i>Commissioners.</i>
CHAS. E. CARPENTER,		
JOSEPH J. COOKE,		

BILLS APPROVED BY THE WATER COMMISSIONERS DURING THE QUARTER ENDING JUNE 30TH, 1870.

Number.

108	David S. Harris, fence posts,	-	-	\$286 20
109	Millard & Harker, printing,	-	-	7 50
110	Providence Press Co, do	-	-	69 42
111	F. H. Richmond, printing paper,	-	-	60 75
112	F. W. Lincoln Jr. & Co., steel tape,	-	-	20 00
113	Stephen B. Gardiner, farm on Sockanosset hill,	-	-	10,000 00
114	John Wilson Smith, guardian of William O. Creighton, three lots of land,	-	-	3,112 60
115	Dexter Gorton & Co., two buildings for offices,	-	-	956 46
116	Steele & Condict, 1 6-inch stop-cock,	-	-	44 50
117	Providence Steam and Gas Pipe Co., steel rings,	-	-	9 00
118	James McDonald & Co., on account of construction of reservoir,	-	-	9,000 00
119	Boynton Bro's & Elsbree, on account of excavation,	-	-	900 00
120	John Howe and David Hall, on account of construction of culverts and bridge,	-	-	700 00
121	J. Herbert Shedd, salary as chief engineer,	-	-	1,500 00
122	Josiah Brown, " principal ass't eng'r,	-	-	1,000 00
123	C. H. Pierce, " assistant engineer,	-	-	375 00
124	C. H. Swan, " "	-	-	375 00
125	S. M. Gray, " "	-	-	341 09
126	L. B. Ward, " "	-	-	475 00
127	W. T. Schneider, " "	-	-	96 00
128	Laurence Bradford, " "	-	-	30 14
129	J. E. Bowen, " " student,"	-	-	75 00
130	G. F. Cook, " "	-	-	75 00
131	C. J. Howard, " "	-	-	75 00
132	L. J. Sampson, " "	-	-	75 00
133	George H. Slade, " "	-	-	25 00
134	A. B. Purdy, " inspector on reservoir,	-	-	250 00
135	J. S. Potter, " "	-	-	111 00
136	Horatio L. Holmes, salary and traveling expenses as pipe inspector,	-	-	142 88
	Amount carried forward,	-	-	\$30,187 54

Amount brought forward,	-	-	\$30,187 54
137 H. G. H. Tarr, salary as pipe inspector,	-	-	165 00
138 D. D. Waterman, temporary assistance in eng's office,	-	-	51 30
139 Herbert F. Keith, Drawing,	-	-	15 00
140 William Aplin, salary as clerk,	-	-	150 00
141 Moses B. Lockwood, salary as commissioner,	-	-	500 00
142 Charles E. Carpenter, " "	-	-	500 00
143 Joseph J. Cooke, " "	-	-	500 00
144 C. H. Pierce, sundry expenses in engineer's dep't,	-	-	100 04
145 Marshall Woods, rent of offices,	-	-	287 50
146 Robert F. Nicola, services as janitor,	-	-	52 00
147 Providence Gas Co., gas,	-	-	5 40
148 Cleveland & Brothers, stakes for engineers and furniture,	-	-	121 94
149 Barker, Whitaker & Co., tools, &c.	-	-	19 93
150 Wm. H. Fenner & Co., water coolers,	-	-	9 42
151 Millard & Harker, printing,	-	-	2 50
152 Tuttle & Hobbs, horse-keeping &c.,	-	-	165 47
153 Albert D. Wheeler & Co., horse-hire,	-	-	57 00
154 Knowles, Anthony & Danielson, advertising,	-	-	16 13
155 Providence Press Co., " "	-	-	15 56
156 Noah D. Payne, " "	-	-	15 38
157 George H. Whitney, engineers' stationery,	-	-	215 07
158 Sidney S. Rider & Bro., " "	-	-	25 32
159 Fales, Jenks & Sons, pipes and gate,	-	-	171 29
160 Joseph J. Cooke, postages, box-rent and sundries since Dec. 31st, 1869,	-	-	26 50
			<hr/>
			\$33,375 29

RECEIVED BY THE COMMISSIONERS DURING THE QUARTER AND PAID
TO THE CITY TREASURER.

Of David S. Harris, for standing wood,	-	-	\$659 09
Of Thomas Hannay, for one quarter's rent of estate purchased of Miss Julia Bullock,	-	-	75 00
			<hr/>
			\$734 09

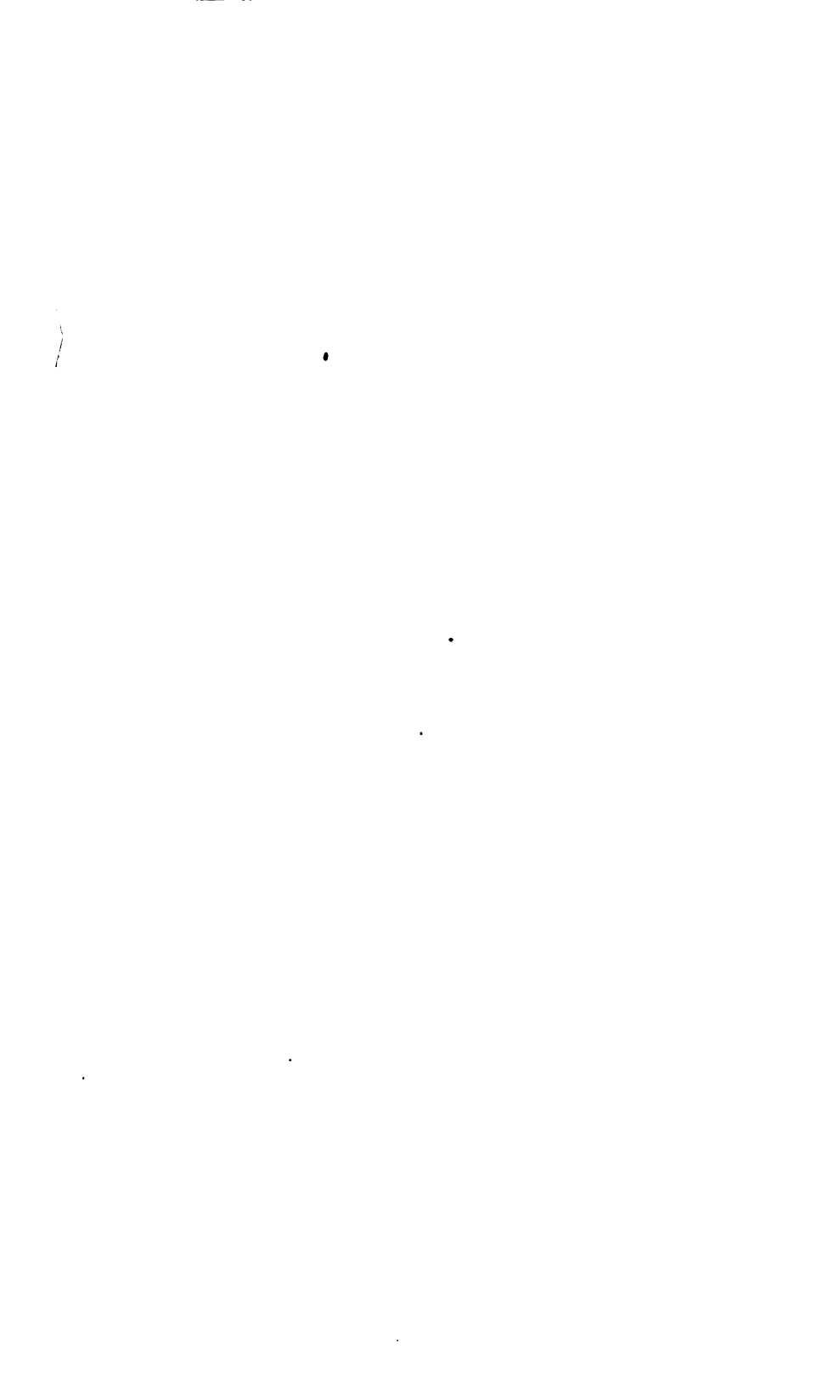
ABSTRACT OF THE ACCOUNTS OF THE WATER COMMISSIONERS, TO
JUNE 30, 1870, INCLUSIVE.

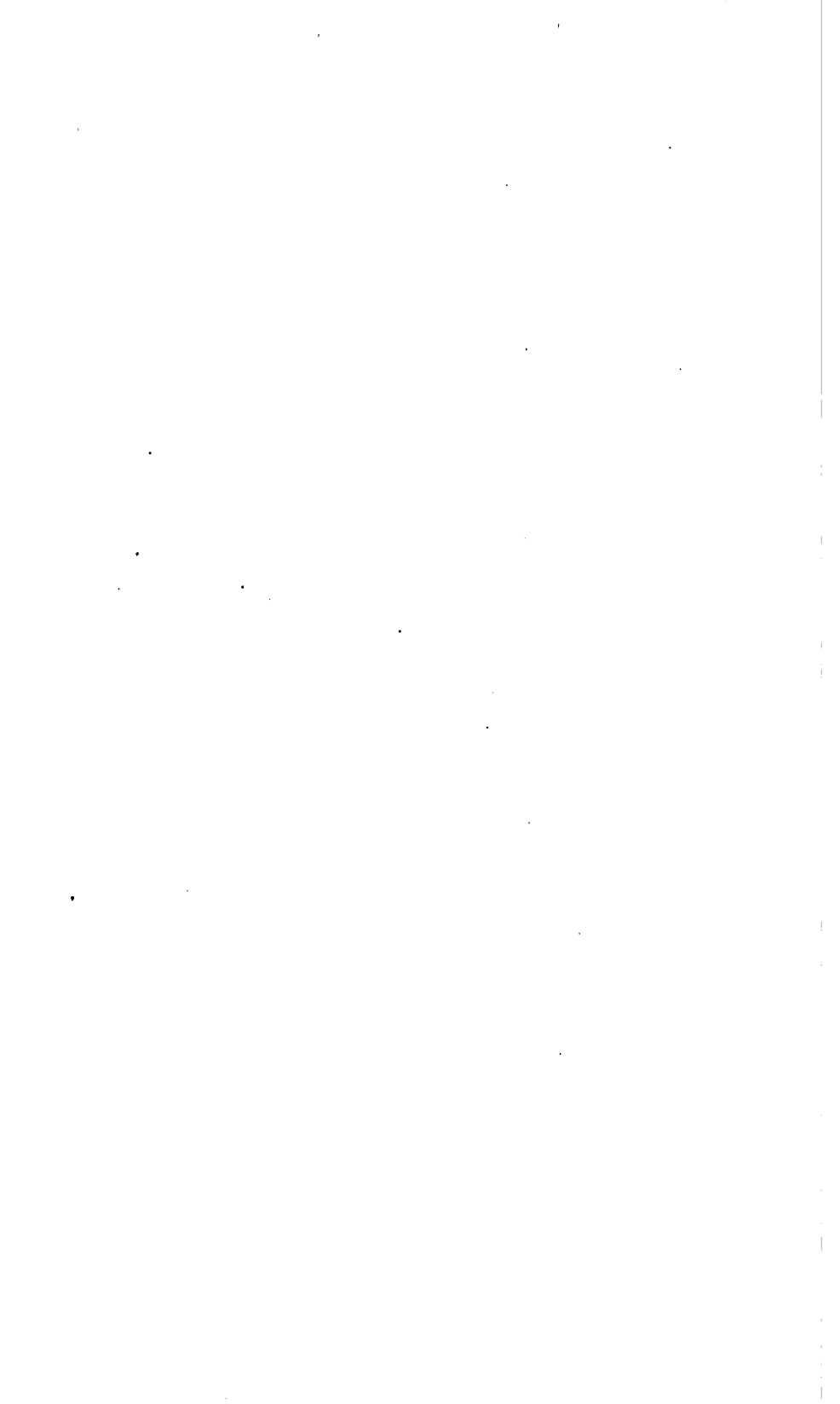
Dr.		
Hope Reservoir, for land, - . -	\$95,654 05	
Sockanosset Reservoir, for land, -	10,000 00	
“ “ “ inspection, -	361 00	
Office furniture, stoves, gas fixtures, &c.,	551 66	
Rent of offices, - - -	450 00	
Books, stationery, &c., - - -	216 49	
Fuel and lights, - - -	60 64	
Janitor of rooms, - - -	58 00	
Traveling expenses of Commissioners,	49 17	
Horse-hire by Commissioners, -	8 00	
Clerk's salary, - - -	440 32	
Commissioners' salaries, -	4,500 00	
Sundries, - - -	46 72	
Printing, - - -	325 41	
Advertising, - - -	870 63	
Fence posts, - - -	286 20	
Stop valves, - - -	44 50	
James McDonald & Co., -	9,000 00	
Boynton Brothers & Elsbree, -	900 00	
John Howe & David Hall, -	700 00	
City Treasurer, - - -	734 09	
Inspection of pipes, - - -	307 88	
Iron Drain Pipes and gate, -	171 29	
		\$125,731 05
ENGINEERING DEPARTMENT,		
For Instruments, - - -	\$480 52	
Tools, - - -	153 02	
Advertising, - - -	8 36	
Furniture, stoves, gas fixtures, &c.,	656 33	
Books, stationery, &c., -	496 03	
Temporary assistance, - - -	668 51	
Amounts carried forward,	\$2,457 77	\$125,731 05

Amounts brought forward,		\$2,457 77	\$125,731 05
For Labor, -	-	280 27	
Horse and wagon account,	-	761 25	
Horse-keeping, shoeing, &c.,		196 69	
Horse hire, -	-	193 00	
Rent of offices, -	-	375 00	
Fuel and lights, -	-	100 85	
Janitor of rooms, -	-	83 00	
Experimental filter, -	-	91 08	
Sundries, -	-	229 89	
Salaries, -	-	10,600 11	
Boring, -	-	1,565 51	
Consultations, -	-	120 00	
Office building at Pettaconset,		463 75	
Office building at Sockanosset, -	-	491 25	
Stakes, -	-	71 68	
		<hr/>	\$18,081 10
			<hr/>
			\$143,812 15

CR.

Hope Reservoir, for land, (rent received,)	\$75 00	
Sockanosset Reservoir, for land, (wood sold,	659 09	
Approved bills, -	-	143,078 06
		<hr/>
		\$143,812 15





1870-71.]

CITY DOCUMENT.

[No. 18.

FOURTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

OCTOBER 1, 1870.



PROVIDENCE:

HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.

1870.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

Office, No. 10 Woods' Building, corner of South Main and College streets.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office, No. 7 Woods' Building, corner of South Main and College streets.

CONSULTING ENGINEER,

S. B. CUSHING.

REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, October 1, 1870. }

TO THE HONORABLE CITY COUNCIL:

The Water Commissioners respectfully present their Fourth Quarterly Report.

A year has now elapsed since the organization of the board and it may be expected that a fuller statement of their doings and of the progress of the work will be made at this time than in the other quarterly reports. The Chief Engineer's Report must obviously constitute one of the most important portions of an Annual Report, and as he is at this season of the year fully occupied with the work in progress, the first of January in each year is regarded as a more convenient as well as a more appropriate time for the preparation and presentation of an extended Annual Report.

The Commissioners, however, take pleasure in saying that much has been done in the various departments of the work and that nothing has yet appeared to render impossible the introduction of water into the city in the autumn of 1871.

Contracts have been made for nearly all the labor and materials required for such partial introduction. The grading and bridging are in a good state of forwardness, and it is expected that such portion of this work as is immediately necessary will be nearly or quite finished this year. All of the pipes necessary for the force main, leading main and much of the distribution have been bought, deliverable in Providence before the end of the spring of next year. A large number of the heavier pipes have already been received and about 1,900 feet of the leading main laid. Negotiations have

been nearly concluded for the construction of a Worthington Duplex Engine of a capacity to raise 5,000,000 gallons one hundred feet high, in 24 hours, to be in readiness to be used on the bank of the Pawtuxet on the 1st of August next, for service at that point until another and more powerful engine can be planned and constructed, engine house erected, &c. &c. As intimated in the last report of the Commissioners, the engine first above named is designed for permanent use at the Hope pumping-station. And finally, the reservoir on Sockanosset hill is in a state of forwardness that enables the Commissioners to hope that it will be completed according to contract on the 1st of September next, notwithstanding the absence of rain has greatly impeded the progress of construction.

The Council will thus perceive that the Commissioners are fully alive to the necessity of an early introduction of water and that their efforts thus far have not been without a reasonable measure of success.

The Commissioners are aware of the necessity of laying the pipes on North Main Street as early as possible and they understand from the Chief Engineer that he has made arrangements to have the work done early in the spring.

Since the last Quarterly Report the following contracts have been made, viz :

A contract with R. D. Wood & Co., Philadelphia, to furnish 3,000 tons of iron pipe, varying in size from 6 inches to 20 inches, deliverable in Providence in the spring (or earlier if they choose) at fifty dollars per gross ton.

A contract with the Builders Iron Foundry of this city, for all Special Castings not previously contracted for, required during the years 1870 and 1871 at three and one quarter cents per pound.

A contract with the Providence Steam and Gas Pipe Co., for Trenching, and Back-Filling and for Laying all pipes already contracted for, being about 11,600 tons besides Special Castings.

Contracts with Boynton Bro's & Elsbree of this city, for grading at Pettaconset and on a portion of the line of leading

mains at twenty-five cents per cubic yard, and for building two culverts.

A contract with Caleb Rodman of this city, for carting 36 inch and 30 inch pipes from the Providence Gas Co's wharf to the lines of the mains, at from one dollar to two and one quarter dollars per ton, according to distance.

A contract with George W. Lobdell of Mattapoisett, Mass., for grading for leading mains at thirty cents per cubic yard, and for building bridge abutments at Pochasset river.

A contract with Dexter Gorton & Co., for building a dwelling-house at Pettaconset for the sum of twenty-seven hundred and forty dollars.

The contract with George H. Norman for iron pipes has been transferred, by consent of parties, to the Warren Foundry and Machine Co., of Phillipsburg, N. J.

A Plat of the Estates taken and Estates purchased for Hope Reservoir was deposited in the office of the City Clerk on the 12th of July.

On the 31st of August, Philanzo Edick, of Morrisiana, Westchester Co., N. Y., was appointed inspector at Sockanosset Reservoir with a salary of one hundred and thirty dollars per month for the working season.

Frederick W. Gilbert of Hartford, Conn., has been appointed inspector at Sockanosset Reservoir, with a salary of one thousand dollars per annum. His services commenced on the 19th of September.

George W. Crawford of Providence has been appointed student in the engineering department for three years from the 3d of September, with a salary of three hundred dollars for the first year, four hundred dollars for the second year and five hundred dollars for the third year.

The salary of Samuel M. Gray, Assistant Engineer, "resident" at Sockanosset Reservoir, has been increased to twenty-five hundred dollars per annum, dating from 1st of July.

The salary of Laurence Bradford, Assistant Engineer, has been increased to fifteen hundred dollars per annum, from this date.

In consideration of the valuable services of John E. Bowen, student in the engineering department, the Commissioners have advanced him one year, agreeing to consider his second as being in all respects, his third year.

George F. Cook relinquished his position as student at the expiration of the quarter which ended June 30.

The new road on Sockanosset hill having been completed, the Town Council of Cranston have declared that portion of the old road lying between the extremities of the new road, useless as a public highway.

A telegraph has been completed from the office of the Chief Engineer in Providence to the office at Pettaconset, and is now in use.

The Chief Engineer reports that the flow of water in the Pawtuxet River at Pettaconset was approximately gauged near the close of the late drought and found to be 115,000,000 gallons in twenty-four hours.

Additional accommodations being needed by the Engineer's Department, the Commissioners took an assignment of lease of Rooms Numbers 15 & 16 Woods' Building. The lease is for three years from April 23, 1869 at four hundred (400) dollars, per annum and was assigned without premium. The rent commenced on 22d of August.

The work under the contract with John Howe and David Hall for the construction of a highway bridge and three culverts is nearly completed.

The expenditures during the last quarter have been \$75,052,22. The total expenditures to date have been \$218,130,28. The unexpended balance of appropriations is \$81,869,72. An appropriation of one hundred thousand (100,000) dollars will be needed during the present quarter.

A Schedule of bills approved and of receipts during the last quarter and an Abstract of accounts to September 30, 1870, inclusive, are hereunto annexed and made part of this report.

M. B. LOCKWOOD,	}	<i>Water Commissioners.</i>
CHAS. E. CARPENTER,		
JOSEPH J. COOKE,		

**BILLS APPROVED BY THE WATER COMMISSIONERS
DURING THE QUARTER ENDING SEPTEMBER 30
1870.**

Number.

161	James Mac Donald & Co., on account of construction of Sockanosset reservoir, - - - -	\$2,600 00
162	Boynton Bro's. & Elsbree, on account of excavation and grading, - - - -	850 00
163	John Howe and David Hall, on account of construction of culverts and bridge, - - -	525 00
164	James Mac Donald & Co., moving buildings on Sockanosset hill, &c, - - - -	819 07
165	Dexter Gorton & Co., building storehouse and workshop, - - - -	697 00
166	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.,) - -	384 54
167	Alzirus Brown, Lyon Derrick, - - - -	65 00
168	Wheeler & Tallman, horse hire, engineer's departm't, - - -	27 00
169	McKay & Regan, horse shoeing, " - - -	6 25
170	Ackerman & Co., binding, - - - -	9 28
171	Stephen B. Gardiner, cutting wood, &c., - - -	26 00
173	Fred. A. Seymour, salary as inspector on reservoir, - - -	65 75
173	John A. Moore, labor, &c., - - - -	410 07
174	H.G. H. Tarr, inspection of pipes at Warren Foundry, - - -	100 00
175	Prov. Gas Co., rent of wharf and labor on pipes. - - -	234 70
176	James Mac Donald & Co., on account of construction of Sockanosset reservoir, - - - -	4,300 00
177	Boynton Bro's. & Elsbree, on account of excavation and grading, - - - -	900 00
178	John S. Potter, services as inspector on reservoir, - - -	48 00
179	W. T. Angell, services in engineering department, - - -	64 25
180	John Howe and David Hall, on account of construction of culverts and bridge, - - -	1,000 00
181	Warren Foundry and Machine Co., on account of water pipes, - - - -	13,268 63
182	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.,) - - -	420 58
183	Albert Dailey & Co., lumber for pipe yard, - - -	217 86
Amount carried forward, - - -		\$27,038 98

	Amount brought forward,	-	-	-	\$27,038 98
184	James A. Potter & Co., lumber,	-	-	-	5 54
185	F. W. Lincoln Jr. & Co., engineer's level,	-	-	-	135 00
186	F. W. Lincoln Jr. & Co., steel tape,	-	-	-	20 00
187	Builders Iron Foundry, testing 74 samples pipe iron,	-	-	-	111 00
188	Fales, Jenks & Sons, flange pipes,	-	-	-	20 30
189	J. Balch & Son, bottles &c.	-	-	-	3 67
190	Thomas Phillips & Co., sundries,	-	-	-	8 20
191	D. F. Burlingame, carpenter's work &c.	-	-	-	22 61
192	A. F. Nagle, draughting,	-	-	-	108 00
193	N. F. Davis, temporary assistance in Engineer's office,	-	-	-	100 00
194	F. A. Seymour, salary as Inspector on reservoir,	-	-	-	100 00
195	A. B. Purdy,	"	"	"	250 00
196	Horatio L. Holmes,	"	"	of pipes,	250 00
197	L. B. Ward Jr.,	"	"	assistant engineer,	500 00
198	Samuel M. Gray,	"	"	"	416 67
199	Charles H. Pierce,	"	"	"	250 00
200	Charles H. Swan,	"	"	"	250 00
201	Laurence Bradford,	"	"	"	166 67
202	W. T. Schneider,	"	"	"	159 00
203	John E. Bowen,	"	"	student	50 00
204	C. J. Howard,	"	"	"	50 00
205	L. J. Sampson,	"	"	"	50 00
206	George H. Slade,	"	"	"	50 00
207	John Whitelaw, paid by him for tracing paper and draughting,	-	-	-	29 00
208	H. G. H. Tarr, services as pipe inspector,	-	-	-	81 00
209	Caleb Rodman, on account of carting pipes,	-	-	-	682 18
210	Boynton Bro's & Elsbree, on account of excavation and grading and construction of culverts,	-	-	-	2,206 12
211	James Mac Donald & Co., on account of construction of Sockanosset reservoir,	-	-	-	9,150 00
212	George H. Norman, in full for construction of road,	-	-	-	3,517 00
213	John Howe & David Hall, on account of construction of culverts and bridge,	-	-	-	1,650 00
214	Warren Foundry and Machine Co., on account of Water Pipes,	-	-	-	17,979 96
215	J. Herbert Shedd, salary as chief engineer,	-	-	-	1,500 00
216	Josiah Brown, salary as principal assistant engineer,	-	-	-	1,000 00
217	Lebbeus B. Ward, salary as assistant engineer,	-	-	-	250 00
218	Samuel M. Gray,	"	"	"	208 33
219	Charles H. Pierce,	"	"	"	125 00
	Amount carried forward,	-	-	-	\$68,494 23

	Amount brought forward,	-	-	-	-	\$68,494 23
220	Charles H. Swan,	"	"	"		125 00
221	Laurence Bradford,	"	"	"	-	83 33
222	William T. Schneider,	"	"	"		78 00
223	John E. Bowen,	"	student	-	-	25 00
224	Cecil J. Howard,	"	"	-	-	25 00
225	Lucius J. Sampson,	"	"	-	-	25 00
226	George H. Slade,	"	"	-	-	25 00
227	George W. Crawford,	"	"	-	-	23 33
228	Edwin T. Brown, salary as student (on trial)	-				24 17
229	Herbert F. Keith, temporary assistance in Eng'rs dep't,					107 50
230	Daniel D. Waterman,	"	"	"	"	82 20
231	Daniel Beckwith,	"	"	"	"	75 00
232	Philip D. Borden Jr.,	"	"	"	"	59 00
233	Nathaniel F. Davis,	"	"	"	"	52 00
234	Augustus F. Nagle, draughting.	-	-	-	-	156 00
235	John F. Ward,	"	-	-	-	84 00
236	Andrew B. Purdy, salary as inspector on Sockanosset reservoir and of pipe laying,	-	-	-		125 00
237	Philanzo Edick, salary as inspector on Sockanosset reservoir,	-	-	-	-	82 33
238	Thomas S. Baldwin, salary as inspector on Sockanosset reservoir,	-	-	-	-	40 00
239	Frederick W. Gilbert, salary as inspector on Sockanosset reservoir,	-	-	-	-	33 33
240	George H. Deforest, salary as inspector on Sockanosset reservoir,	-	-	-	-	22 00
241	Horatio L. Holmes, salary as inspector of pipes,	-				125 00
242	H. G. H. Tarr,	"	"	"		66 00
243	Henry H. Brown,	"	receiver of pipes,	-		56 00
244	William Aplin,	"	commissioners' clerk,			150 00
245	M. B. Lockwood,	"	water commissioner,	-		500 00
246	Charles E. Carpenter,	"	"	"		500 00
247	Joseph J. Cooke,	"	"	"	-	500 00
248	F. W. Lincoln Jr. & Co., instruments and repairing,	-				16 25
249	Providence Steam & Gas Pipe Co., tools,	-				61 44
250	Barker, Whitaker & Co., tools,	-	-	-		22 06
251	Herbert F. Keith, drawing tables, &c.,	-				25 00
252	Cleveland & Brothers, furniture, &c.,	-	-	-		12 14
253	John Mason, drawing board &c.,	-	-	-		8 42
254	Albert D. Wheeler & Co., horse hire, engineer's dep't,					102 00
	Amount carried forward,	-	-	-	-	\$71,990 73

	Amought brought forward, - - -	\$71,990 73
255	Tuttle & Hobbs, horse keeping and horse hire, engineer's department, - - -	138 84
256	George H. Whitney, stationery, engineer's dep't., - - -	103 40
257	Charles H. Pierce, sundries, " "	208 22
258	Marshall Woods, rent of offices, &c., - - -	341 39
259	Robert F. Nicola, care of offices, &c., - - -	54 82
260	Providence Gas Co., gas, - - -	3 30
261	George H. Whitney, stationery for commissioners office, - - -	10 92
262	Providence Press Co., printing and advertising, - - -	62 54
263	Noah D. Payne, advertising, - - -	20 06
264	Knowles, Anthony & Danielson, " - - -	26 75
265	Builders Iron Foundry, 6 pairs of pipe calipers, - - -	325 00
266	" " " special castings, - - -	55 64
267	Caleb Rodman, carting pipes, - - -	1,049 20
268	Jackson & Cutler, freight of pipes. (charged to Warren Foundry and Machine Co.,) - - -	661 41
		<hr/>
		\$75,052 22

RECEIVED DURING THE QUARTER AND PAID TO THE
CITY TREASURER.

Of James Sculley, for pasturage of a portion of Hope reservoir lands, - - - - -	\$75 00
Of Thomas Hannay, for one quarter's rent of estate purchased of Miss Julia Bullock, - - -	75 00
	<hr/>
	\$150 00

ABSTRACT OF THE ACCOUNTS OF THE WATER COMMISSIONERS, TO SEPTEMBER 30, 1870, INCLUSIVE.

DR.

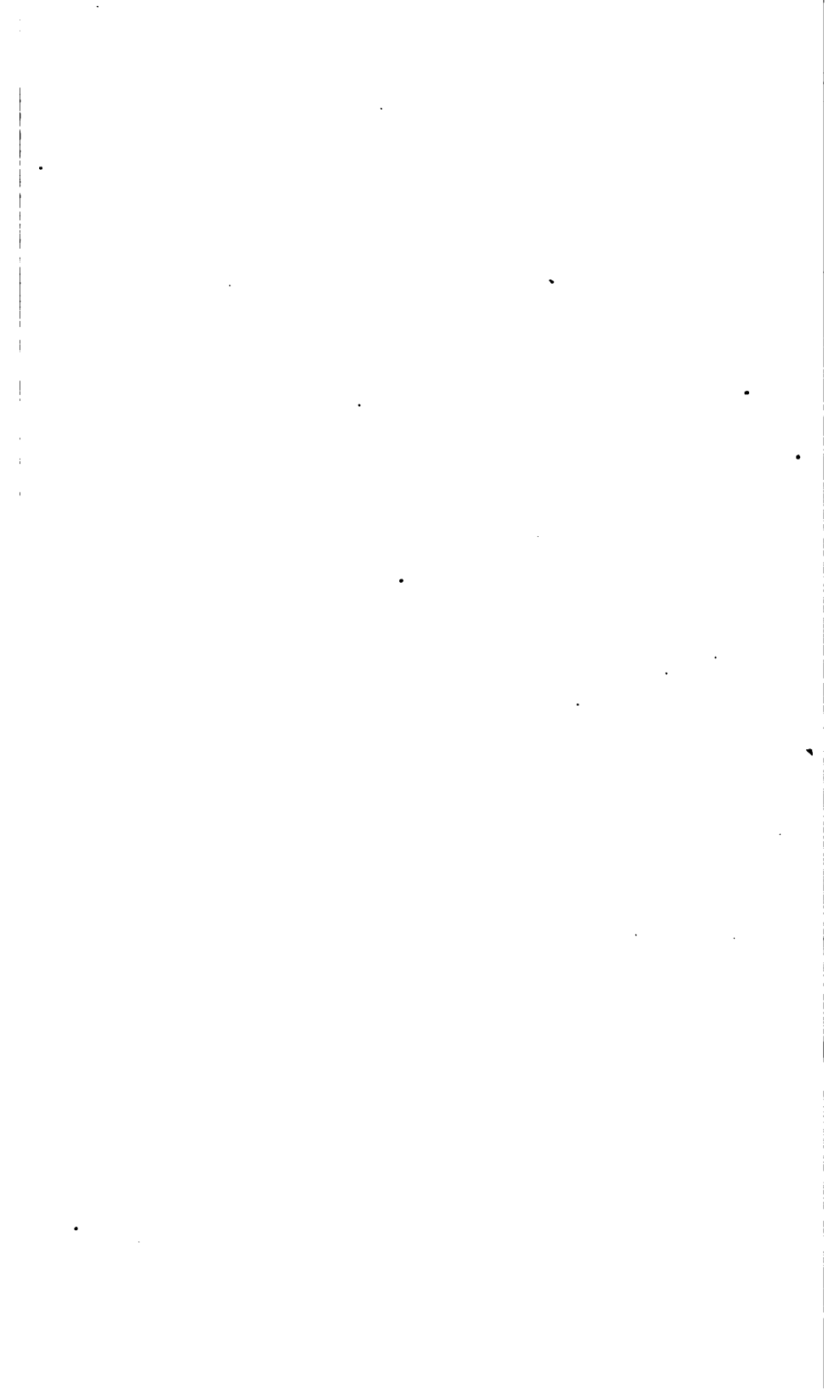
Hope reservoir, for land, - - -	\$95,654 05
Sockanosset reservoir, for land, -	10,020 00
“ “ “ inspection, -	1,127 41
“ “ “ moving buildings, -	792 08
Office furniture, stoves, gas fixtures, &c., -	551 66
Rent of offices, - - - -	575 00
Books, stationery, &c., - - - -	227 41
Fuel and lights, - - - -	60 94
Horse hire by commissioners, - - -	3 00
Janitor of rooms, - - - -	78 00
Traveling expenses of commissioners, -	49 17
Clerk's salary, - - - -	590 32
Commissioners' salaries, - - - -	6,000 00
Sundries, - - - -	52 72
Printing, - - - -	377 54
Advertising, - - - -	937 13
Fence posts, - - - -	286 26
Stop valves, - - - -	44 50
Storehouse and workshop, - - - -	697 00
Tools, - - - -	418 87
Labor on pipes, - - - -	59 70
Rent of wharf and pipe yard, - - -	175 00
Cast iron water pipes, - - - -	35,653 71
Lumber, - - - -	217 86
Sockanosset hill cross road, - - -	3,517 00
James Mac Donald & Co., - - -	25,050 00
Boynton, Bro's. & Elsbree, - - -	4,856 12
John Howe & David Hall, - - -	3,875 00
City Treasurer, - - - -	884 09
Inspection of pipes, - - - -	985 88
Testing pipe iron, - - - -	111 00
Iron pipes and gate, - - - -	191 59
Carting pipes, - - - -	1,931 38
Special castings, - - - -	55 64
Amount carried forward, -	<hr/> \$196,106 97

Amount brought forward,	-	\$196,106 97
ENGINEERING DEPARTMENT—		
For Instruments,	- - - -	\$689 02
Tools,	- - - -	218 69
Furniture, stoves, gas fixtures, &c.,	- - - -	716 89
Books, stationery, &c.,	- - - -	609 43
Temporary assistance,	- - - -	1,217 63
Labor,	- - - -	717 33
Draughting,	- - - -	392 00
Horse and wagon account,	- - - -	761 25
Horse keeping, shoeing, &c.,	- - - -	281 78
Horse hire,	- - - -	382 00
Rent of offices,	- - - -	576 39
Fuel and lights,	- - - -	103 85
Janitor of rooms,	- - - -	117 82
Experimental filter,	- - - -	91 08
Sundries,	- - - -	400 59
Salaries,	- - - -	16,035 44
Boring,	- - - -	1,565 51
Consultations,	- - - -	120 00
Office building at Pettaconset,	- - - -	476 89
“ “ “ Sockanosset,	- - - -	500 72
Stakes,	- - - -	71 68
		<hr/> \$26,045 99
		<hr/> \$222,152 96

Cr.

Hope reservoir, for land (rent received,) -	\$225 00
Sockanosset reservoir, for land (wood sold,) -	659 09
Warren Foundry and Machine Co., -	2,938 59
Caleb Rodman, - - - -	200 00
Approved bills, - - - -	218,130 28
	<hr/> \$222,152 96





1870-71.]

CITY DOCUMENT.

[No. 24.]

FIFTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

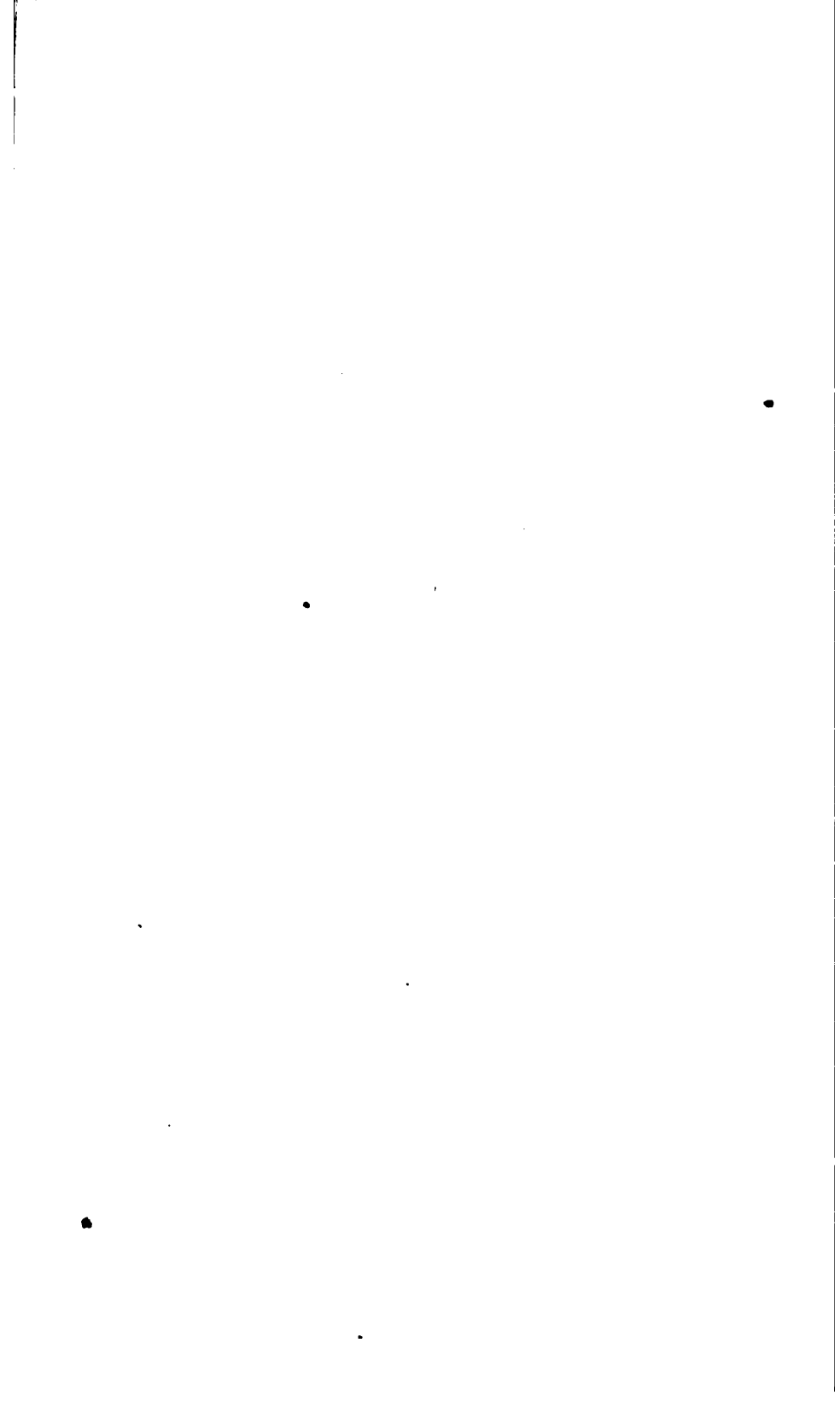
JANUARY 2, 1871.



PROVIDENCE:

HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.

1871.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

Office No. 10 Woods' Building, cor. of South Main and College streets.

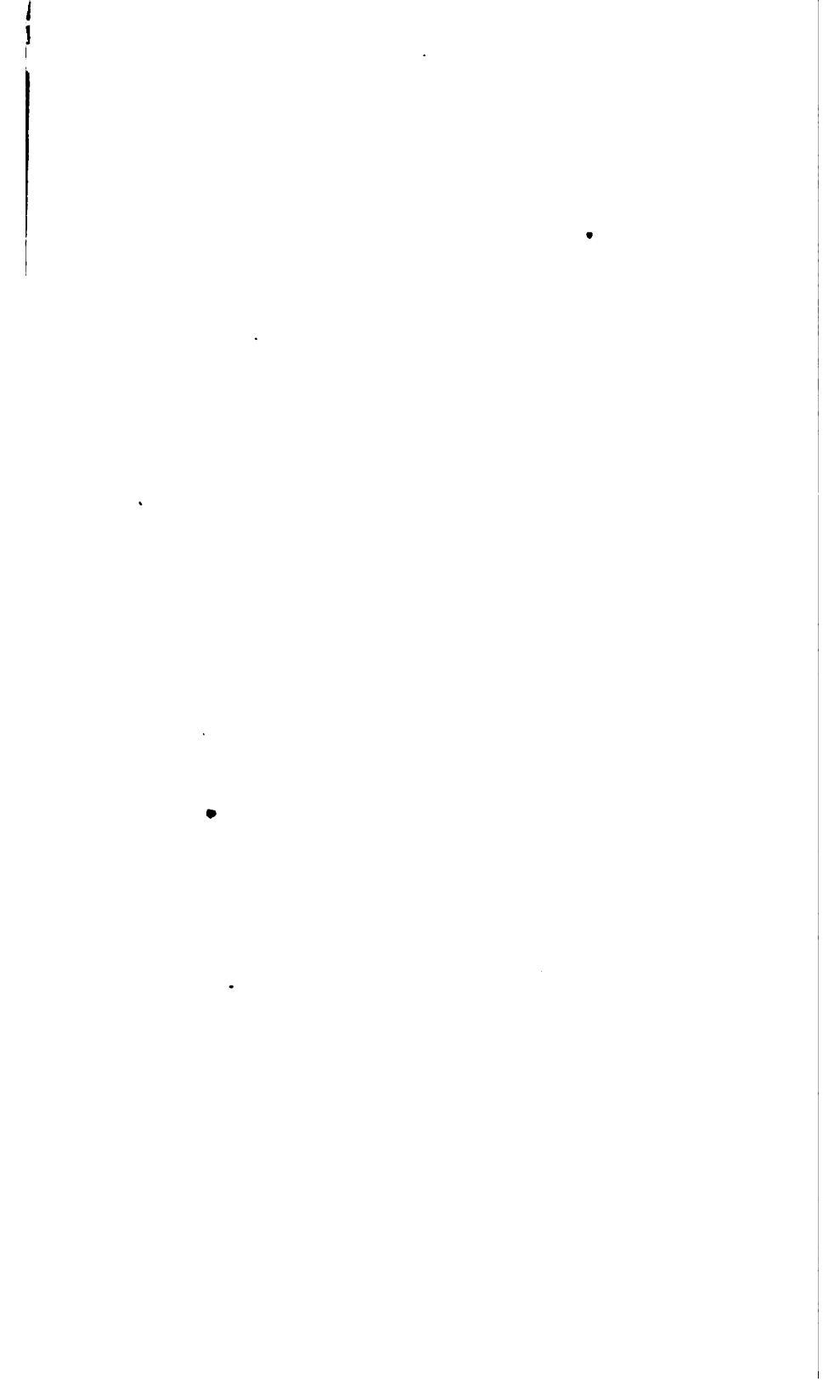
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 7 Woods' Building, corner of South Main and College streets.

CONSULTING ENGINEER,

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, January 2d, 1871. }

TO THE HONORABLE CITY COUNCIL:

The Water Commissioners respectfully submit their Fifth Quarterly Report:

During the quarter, considerable progress has been made in the work under their charge. The weather has been so favorable that labor was continued, with some interruptions, on the embankment of the reservoir, until the 12th of December, and pipe-laying until the 30th of December. More pipes would have been laid during the season if they had been received in accordance with contracts, and they would have been laid in North Main street, in December, if the necessary special castings had been at hand, as they should have been according to agreement. Arrangements have now been made which, it is believed, will secure an amply supply of special castings in time for use at the commencement of the next season, and the Commissioners have also reason to hope that the supply of pipes will be abundant for the year, which has just opened. There have been laid, up to this date, 1,677.06 feet or 0.3176 mile of thirty-six inch force-mains and 9,925.80 feet or 1.8799 mile of thirty inch leading mains:—total 11,602.86 feet or 2.1975 miles.

The following contracts and agreements have been made since the last report :

A contract with Freeborn Johnson & Co., of Providence, for furnishing the materials and building two one and one-half story dwelling houses at Pettaconset, for the sum of forty-six hundred and ninety-four (4,694) dollars.

A contract with the Builders Iron Foundry, of Providence, for 3,000 tons of 6-inch, 24-inch, and 30-inch iron pipes, at \$52 per ton, of 2,240 pounds, the proposals which were received in answer to an advertisement for the same all at a higher price having first been rejected. It is understood that a portion of these pipes will be made by the Warren Foundry, Phillipsburg, N. J., and the remainder by R. D. Wood & Co., Philadelphia.

An agreement with the Town Council of the town of Cranston, obligating the Commissioners to grade the road formerly known as the Providence and Pawcatuck turnpike, fifty feet wide on the tread, from the city line to a point where the pipe line leaves the turnpike, and thence make a road of the same width to the Sockanosset Hill cross road, with an iron bridge forty feet wide, over the Pochasset river, and also to settle for the land damages for so much of the road as lies between the Pochasset river and said cross road ; and on the other hand obligating the town of Cranston to provide for any land damages which may ensue by reason of grading said turnpike and laying out and grading said road as far as the said Pochasset river, and to pay the Water Commissioners the sum of five thousand dollars ; the A. & W. Sprague Manufacturing Company agreeing to pay an additional sum of twenty-five hundred dollars.

A verbal agreement with the representatives of the heirs of Joseph Harris, deceased, for a deed of a strip of land fifty feet wide, from the Pochasset river to the Sockanosset Hill Cross Road, to be used for the new road, and for the line of leading mains, for the sum of one thousand (\$1,000) dollars, the Commissioners to fence the same, but not to maintain the fence. Also, for 12.2054 acres of land heretofore taken

for reservoir purposes, at \$250 per acre, the Commissioners to build, but not maintain, a fence, on one side thereof. Also, a strip of land fifty feet wide, containing 1,7727 acres, for the force main line, at \$500 per acre, the Commissioners to build a fence on each side, if used as a road but not otherwise, and to be exempt from the maintenance of fences.

A contract dated 29th December, with the Fuller Iron Works of this city, for special castings.

On the 12th of September, the City Council appropriated \$9,500 to be charged to the appropriation for highways, when the Commissioners of the Water Works should cause Greenwich street, from the railroad bridge to the Cranston line, to be brought to the established grade satisfactorily to the Surveyor of Highways and to the Joint Committee on Highways. A good deal of work has been done in pursuance of this resolution, and is still in progress under the contract with Geo. W. Lobdell, who has also done much of the grading between the Cranston line and the Pochasset river. Boynton Brothers & Elsbree have done a large amount of work in grading beyond the river. The rocky portion of the new road has not been worked excepting so far as was necessary in laying pipes. The laying of pipes on this portion of the line has not been entirely completed, owing to the delay caused by ledges.

The negotiations for a Worthington Duplex Engine, to which reference was made in the last report, have been concluded and the engine is in process of construction, but for various reasons, the contract has not yet been executed, but probably will be very soon.

During the quarter the following real estate has been purchased :

Of Joseph S. Budlong, a lot of land on Sockanosset Hill, situate near the centre of the reservoir, and containing about three acres. This lot had been previously taken by authority of law. Also, a strip of land one hundred feet wide and about eighteen hundred and thirty feet long, extending from the Pontiac road north-westerly along the line of force mains to land of the heirs of Joseph Harris, deceased, together with

the right to take earth and gravel from other lands for grading the pipe line, and including all damages past and prospective by reason of crossing his lands, and of other acts necessary in constructing the works; the Commissioners to fence the strip if used as a road, but to be exempt from the maintenance of fences; the whole for the sum of three thousand dollars.

Of Richard Hill, a tract of land containing about thirteen acres, lying near the inlet chamber of Sockanosset reservoir, for two thousand dollars.

Of Patience W. Chace, that part of her farm in the town of Warwick, lying between the Pawtuxet river, opposite Pettaconset and the Stonington railroad, containing about eighty acres, with a dwelling house and barn thereon, for four thousand dollars.

Of Richard U. Rhodes and wife, her farm in the town of Warwick, adjacent to the farm last mentioned, containing about 245 acres, with dwelling house and other buildings, for nine thousand dollars. These farms were purchased in order to secure the lands along the river, near the pumping station, and a practicable route to the Stonington railroad, which is about one-half a mile distant from the river. A large portion may be sold at a future day.

Of George W. Case, a lot of about one acre, bought to straighten the line of the Rhodes farm, for sixty dollars.

Of the American Wood Paper Company, all the water power at Pawtuxet, with factory building and fixed machinery, two dwelling houses (one untenable in its present state) and about twelve acres of land, situate partly in Cranston and partly in Warwick, for the sum of fifty thousand dollars; subject to a lease of the mill, which expires January 1, 1873, at a rent of one thousand dollars per year. The "Randall estate," which includes most of the land, has been rented to the former occupant for one year, for one hundred and thirty-two dollars. There is no other water power below Pettaconset, and this purchase disposes of all known claims for damages in consequence of the proposed diversion of the waters of the Pawtuxet river. The Pawtuxet privilege may be hereafter sold, subject to the right of diversion by the city.

Of William Eddy, a strip of land fifty feet wide (besides curves at one end) and about three hundred and eighty feet long, for two hundred and fifty dollars. This strip is to be used as a road, leading from the Pontiac road to that part of the "Aldridge farm" near the houses now being erected at Pettaconset, from which point the road will extend to the engine house, etc. The Commissioners are to fence the strip on each side, but are exempt from the maintenance of fences.

Of Abby Ann Stafford, widow of Lorey Stafford, her right of dower in the "Aldridge farm," for one thousand dollars.

The following changes have been made in the engineering department:

Charles D. Ward, of Jersey City, has been appointed principal assistant engineer, with a salary of three thousand dollars per year, in place of Josiah Brown, who terminated his connection with the work on the fourth of October.

George F. Munro has been appointed "student," Cecil J. Howard having resigned on account of poor health.

The salary of William T. Schneider has been increased to twelve hundred dollars per annum from 1st of November, and rent of house at Pettaconset.

By invitation, the Commissioners and the Chief Engineer, on the 11th of October, accompanied His Honor the Mayor and the Board of Aldermen on a tour of inspection, and were gratified with their expressions of satisfaction with the progress of the work.

To meet the interest on the bonds, from the proceeds of which the water works are constructed, and to pay the annual expenses of maintaining and operating them when completed, will require a revenue of no inconsiderable amount.

The methods of deriving income in the various cities supplied with water by public works are far from uniform.

The persons benefited by the introduction of water may be divided into four classes, viz:

- 1st. Those who use the water.
- 2nd. Those whose property is protected by it from fire.

3rd. Those whose unimproved property is increased in value in consequence of the pipes being laid in the adjacent streets.

4th. Those whose property, lying more or less remote, is benefited by the general growth of the city, consequent upon the introduction of water.

Whilst strict equity would seem to require that some portion of the requisite revenue should be derived from each of these classes, it is plain that the first class should pay much the largest percentage, the second the next, and so on, the last paying so small a proportion that it might be appropriated from the city treasury and included in the general annual city tax, until the works become self-sustaining. Without elaborating the working details of a plan for revenue from water, the bare outline of which is here indicated, enough has been said to suggest the necessity of an early application to the General Assembly for authority to impose such special water taxes as may be deemed wise and just.

The Chief Engineer has not been able, owing to the press of other duties, to complete his report; but should it be received in time for the next meeting of the Council, it will be appended hereto; otherwise it will be sent in at a future meeting.

The uncertainty attending the delivery of pipes by the contractors prevents the Commissioners from stating, with much confidence, the amount of money which will be needed during the present quarter, but they suppose that an additional appropriation of \$200,000 will be sufficient.

The expenditures during the last quarter have been \$212,698.19. The total expenditures to date amount to \$430,828.47. Amount of appropriations, \$600,000. The unexpended balance is \$169,171.53.

A schedule of bills approved each quarter since the date of organization, and of receipts during the last quarter, and an abstract of accounts to December 31, 1870, inclusive, are hereunto annexed and made part of this report.

M. B. LOCKWOOD,	}	Water Commissioners.
CHARLES E. CARPENTER,		
JOSEPH J. COOKE,		

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS FROM DATE OF ORGANIZATION TO DECEMBER 31, 1870, INCLUSIVE.

FROM SEPTEMBER 29, 1869, BEING DATE OF ORGANIZATION, TO DECEMBER 31, 1869, INCLUSIVE:

1	F. W. Lincoln Jr. & Co., engineer's instruments, -	\$388 00
2	Knowles, Anthony & Danielson, advertising, -	1 12
3	Providence Press Company, " -	1 12
4	" " " " -	1 12
5	G. & C. M. French, gas fixtures, &c., -	114 78
6	Providence Institution for Savings, furniture, -	130 70
7	Cushing & DeWitt, surveying, etc., -	61 40
8	French & McKenzie, experimental filter, -	34 02
9	M. D. Copeland & Co., horse, -	350 00
10	Tuttle & Hobbs, horse keeping, etc., -	39 84
11	Charles H. West, wagons, harness, etc., -	411 25
12	Marshall Woods, rent of offices, -	250 00
13	William H. Fenner & Co., stoves, etc., -	143 00
14	Providence Gas Company, gas, -	8 70
15	George W. Harris, signs, -	17 85
16	Manchester, Hopkins & Co., coal, etc., -	43 25
17	Thomas Phillips & Co., plumbing, -	150 90
18	Cleveland & Brothers, furniture, etc., -	354 59
19	M. B. Lockwood, salary as commissioner, -	500 00
20	Charles E. Carpenter, " " " -	500 00
21	Joseph J. Cooke, " " " -	500 00
22	M. B. Lockwood, traveling expenses, etc., -	35 75
23	Charles E. Carpenter, " " " -	13 02
24	Joseph J. Cooke, paid for postage stamps, rent of box, towel- ing, etc., -	10 77
25	William Applin, salary as clerk, -	140 32
26	George H. Whitney, books, stationery, etc., -	194 04
27	Robert F. Nicola, services as janitor, -	37 50
28	Providence Steam & Gas Pipe Company, making tools, -	47 15
29	Benjamin F. Clarke, labor for chief engineer, -	51 00
30	Wheeler & Tallman, horse-hire for engineers, -	108 00
31	D. D. Waterman, temporary assistance, engineer's dept. -	41 70
32	J. Herbert Shedd, salary as chief engineer, -	1,500 00
33	" " expenses, -	101 76
Amount carried forward, -		\$6,288 15

	Amount brought forward,		\$6,283 15
34	Charles H. Pierce, salary as assistant engineer,	-	242 47
35	Josiah Brown, " principal assistant engineer,	-	712 33
36	George F. Cook, " student,	-	47 67
37	John E. Bowen, " " - - -	-	47 67
38	Lucius J. Sampson, " " - - -	-	44 39
39	Cecil J. Howard, " " - - -	-	41 09
40	Barker, Whitaker & Co., tools,	-	44 60
41	Louis L. C. Bartlett, drafting, etc.,	-	99 00
42	George H. Whitney, books, stationery, etc., engineer's dep't.	-	223 81
43	Nathaniel Abbott, surveys on work,	-	112 00
44	John A. Moore, labor, etc.,	-	258 84
			<u>\$8,157 02</u>

FROM JANUARY 1, 1870, TO MARCH 31, 1870, INCLUSIVE.

45	James B. Ames, land for Hope reservoir,	-	\$1,500 00
46	Thaddeus H. Church, ditto	-	1,841 55
47	James Tillinghast, trustee, and Mary Ann Head, land for Hope reservoir,	-	23,342 00
48	Henry Eccleston, land for Hope reservoir,	-	800 00
49	Daniel Day, ditto,	-	1,250 00
50	Crawford Allen, ditto,	-	1,911 40
51	Peter Damitlo, ditto,	-	1,125 00
52	Richard H. Morgan, ditto,	-	2,260 00
53	Elisha W. Appleton, ditto,	-	3,287 50
54	Julia Bullock, ditto,	-	12,872 25
55	William T. Bullock, ditto,	-	1,122 74
56	Isaac W. Clarke, ditto,	-	1,000 00
57	B. B. & R. Knight, materials and labor for filter,	-	57 06
58	R. Pierce, carpenter's work,	-	42 17
59	Stephen Waterman, land for Hope reservoir,	-	1,471 36
60	Simon S. Bucklin, executor, ditto,	-	7,888 17
61	Frances M. Cross, ditto,	-	22,469 36
62	John S. Palmer and Chas. S. Capron, land for Hope reservoir,	-	1,563 00
63	Thomas Harris and wife, ditto,	-	1,140 88
64	William P. Rathbone, ditto,	-	3,484 00
65	Nathaniel C. Peckham, ditto,	-	798 75
66	Louis L. C. Bartlett, assistance in Engineer's department,	-	66 00
67	Charles H. Snow and wife, land for Hope Reservoir,	-	1,423 50
68	George Scott, iron well pipe, etc.,	-	186 45
69	John H. Appleton, analyses,	-	10 00
70	S. B. Cushing, consultations,	-	120 00
71	William H. Fenner & Co., stove screens, etc.,	-	36 90
72	George Scott, boring,	-	1,379 06
73	Marshall Woods, rent of offices,	-	287 50
74	Providence Gas Company, gas,	-	20 10
75	Manchester, Hopkins, & Co., coal,	-	83 00
76	Robert F. Nicola, services as Janitor,	-	51 50
	Amount carried forward,	-	<u>\$94,881 19</u>

	Amount brought forward, - - -	\$94,881 19
77	S. B. Parker, auctioneer's fees, - - -	10 89
78	Millard & Harker, printing, - - -	4 75
79	Hammond, Angell & Co., printing, - - -	182 99
80	Providence Press Company, advertising, - - -	48 85
81	Knowles, Anthony & Danielson, " - - -	57 65
82	Noah D. Payne, " - - -	45 56
83	C. J. Wheeler, " - - -	671 50
84	McKay & Regan, horse-shoeing, - - -	4 00
85	Tuttle & Hobbs, horse-keeping, etc., - - -	78 38
86	Wheeler & Tallman, horse-hire for engineers, - - -	18 00
87	G. & C. P. Hutchins, gas fittings, - - -	20 13
88	Barker, Whitaker & Co, tools, - - -	2 72
89	J. Herbert Shedd, salary as chief engineer, and sundries, -	1,509 53
90	Josiah Brown, " principal assistant engineer, -	1,004 70
91	C. H. Pierce, " assistant engineer, and sundries, -	376 90
92	Charles H. Swan, " assistant engineer, - -	272 26
93	John E. Bowen, " student, - - -	75 00
94	George F. Cook, " " - - -	75 00
95	C. J. Howard, " " - - -	75 00
96	L. J. Sampson, " " - - -	75 00
97	Daniel D. Waterman, temporary assistance, engineer's dep't, -	42 15
98	John A. Moore, labor, etc., - - -	31 43
99	Cleveland & Brothers, furniture, etc., - - -	187 63
100	George H. Whitney, books, stationery, etc., engineer's dep't., -	77 59
101	Sidney S. Rider & Brother, " " - - -	15 00
102	M. B. Lockwood, salary as commissioner, - - -	500 00
103	Charles E. Carpenter, " " - - -	500 00
104	Joseph J. Cooke, " " - - -	500 00
105	William Aplin, salary as commissioners' clerk, - - -	150 00
106	George H. Whitney, books, stationery, etc., - - -	7 45
107	N. T. Greene, temporary assistance, - - -	94 50
		<u>\$101,545 75</u>

FROM APRIL 1, 1870, TO JUNE 30, 1870, INCLUSIVE.

108	David S. Harris, fence posts, - - -	\$286 20
109	Millard & Harker, printing, - - -	7 50
110	Providence Press Co, " - - -	69 42
111	F. H. Richmond, printing paper, - - -	60 75
112	F. W. Lincoln Jr. & Co., steel tape, - - -	20 00
113	Stephen B. Gardiner, farm on Sockanosset Hill, -	10,000 00
114	John Wilson Smith, guardian of William O. Creighton, land for Hope reservoir, - - -	3,112 60
115	Dexter Gorton & Co., two buildings for offices, - - -	956 46
116	Steele & Condict, 1 6-inch stop-cock, - - -	44 50
117	Providence Steam & Gas Pipe Co., steel rings, - - -	9 00
118	James MacDonald & Co., on acc't. of construction of reservoir, -	9,000 00
	Amount carried forward, - - -	<u>\$23,566 43</u>

CITY OF PROVIDENCE.

	Amount brought forward,	\$23,508 43
119	Brenton Bros. & Elsbree, on account of excavation,	900 00
120	John Howe and Thomas Child, on account of construction of cul- verts at Fall River,	700 00
121	Edmund Sheild, salary as chief engineer,	1,500 00
122	Josiah Brown, " principal assistant engineer,	1,000 00
123	C. H. Pierce, " assistant engineer,	375 00
124	C. H. Swan, " " " " " "	375 00
125	S. M. Gray, " " " " " "	341 09
126	L. B. Ward, " " " " " "	475 00
127	W. F. Schneider, " " " " " "	96 00
128	Laurence Bradford, " " " " " "	30 14
129	J. E. Bowen, " " student," " " " "	75 00
130	G. F. Cook, " " " " " "	75 00
131	C. J. Howard, " " " " " "	75 00
132	L. J. Sampson, " " " " " "	75 00
133	George H. Slade, " " " " " "	25 00
134	A. B. Purdy, " inspector on reservoir -	250 00
135	J. S. Potter, " " " " " "	111 00
136	Horatio L. Holmes, salary and traveling expenses as pipe inspector,	142 88
137	H. G. H. Tarr, salary as pipe inspector, -	165 00
138	D. D. Waterman, temporary assistance in engineer's office,	51 30
139	Herbert F. Keith, drawing, -	15 00
140	William Aplin, salary as clerk, -	150 00
141	Moses B. Lockwood, salary as commissioner,	500 00
142	Charles E. Carpenter, " " " " " "	500 00
143	Joseph J. Cooke, " " " " " "	500 00
144	C. H. Pierce, sundry expenses in engineer's department,	100 04
145	Marshall Woods, rent of offices, -	287 50
146	Robert F. Nicola, services as Janitor, -	52 00
147	Providence Gas Company, gas, -	5 40
148	Cleveland & Brothers, stakes for engineers and furniture,	121 94
149	Barker, Whitaker & Co., tools, etc., -	19 93
150	Wm. H. Fenner & Co., water coolers, -	9 42
151	Millard & Harker, printing, -	2 50
152	Tuttle & Hobbs, horse-keeping, etc., -	165 47
153	Albert D. Wheeler & Co., horse-hire for engineers, -	57 00
154	Knowles, Anthony & Danielson, advertising, -	16 13
155	Providence Press Co., " " " " " "	15 56
156	Noah D. Payne, " " " " " "	15 38
157	George H. Whitney, engineers' stationery, -	215 07
158	Sidney S. Rider & Bro., " " " " " "	25 32
159	Fales, Jenks & Sons, pipes and gate, -	171 29
160	Joseph J. Cooke, paid for postages, box-rent and sundries since December 31, 1869. -	26 50
		<u>\$33,375 29</u>

FROM JULY 1, 1870, TO SEPTEMBER 30, 1870, INCLUSIVE:

161	James Mac Donald & Co., on account of construction of Sockanosset reservoir, - - -	\$2,600 00
162	Boynton Bro's. & Elsbree, on account of excavation and grading - - -	850 00
163	John Howe and David Hall, on account of construction of culverts and bridge, - - -	523 00
164	James Mac Donald & Co., moving buildings on Sockanosset hill, etc., - - -	819 07
165	Dexter Gorton & Co., building storehouse and workshop, - - -	697 00
166	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Company,) - - -	344 54
167	Alzirus Brown, Lyon Derrick, - - -	65 00
168	Wheeler & Tallman, horse hire, engineer's department, - - -	27 00
169	McKay & Regan, horse shoeing, " - - -	6 25
170	Ackerman & Co., binding, - - -	9 28
171	Stephen B. Gardiner, cutting wood, &c., - - -	26 00
172	Fred. A. Seymour, salary as inspector on reservoir, - - -	65 75
173	John A. Moore, labor, &c., - - -	410 07
174	H. G. H. Tarr, inspection of pipes at Warren Foundry, - - -	100 00
175	Providence Gas Co., rent of wharf and labor on pipes, - - -	234 70
176	James MacDonald & Co., on account of construction of Sockanosset reservoir, - - -	4,300 00
177	Boynton Bro's. & Elsbree, on account of excavation and grading, - - -	900 00
178	John S. Potter, services as inspector on reservoir, - - -	48 00
179	W. T. Angell, services in engineering department, - - -	64 25
180	John Howe and David Hall, on account of construction of culverts and bridge. - - -	1,000 00
181	Warren Foundry and Machine Co., on account of water pipes, - - -	13,268 63
182	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.,) - - -	420 58
183	Albert Dailey & Co., lumber for pipe yard, - - -	217 86
184	James A. Potter & Co., lumber. - - -	5 54
185	F. W. Lincoln Jr. & Co., engineer's level, - - -	135 00
186	F. W. Lincoln Jr. & Co., steel tape, - - -	20 00
187	Builders Iron Foundry, testing 74 samples pipe iron, - - -	111 00
188	Fales, Jenks & Sons, flange pipes, - - -	20 30
189	J. Balch & Son, bottles &c., - - -	3 67
190	Thomas Phillips & Co., sundries, - - -	8 20
191	D. F. Burlingame, carpenter's work &c., - - -	22 61
192	A. F. Nagle, draughting, - - -	108 00
193	N. F. Davis, temporary assistance in Engineer's office, - - -	100 00
194	F. A. Seymour, salary as inspector on reservoir, - - -	100 00
195	A. B. Purdy, " " " - - -	250 00
196	Horatio L. Holmes, " " of pipes, - - -	250 00
197	L. B. Ward Jr., " assistant engineer, - - -	500 00
198	Samuel M. Gray, " " " - - -	416 67
199	Charles H. Pierce, " " " - - -	250 00

Amount carried forward, - - -

\$29,339 97

Amount brought forward,		\$29,339 97
200	Charles H. Swan, salary as assistant engineer,	250 00
201	Laurence Bradford, " " "	166 67
202	W. T. Schneider, " " "	150 00
203	John E. Bowen, " student, " "	50 00
204	C. J. Howard, " " "	50 00
205	L. J. Sampson, " " "	50 00
206	George H. Slade, " " "	50 00
207	John Whitelaw, paid by him for tracing paper and draughting,	29 00
208	H. G. H. Tarr, services as pipe inspector, -	81 00
209	Caleb Rodman, on account of carting pipes, -	682 18
210	Boynton Bro's & Elsbree, on account of excavation and grading and construction of culverts, -	2,206 12
211	James Mac Donald & Co., on account of construction of Sockanosset reservoir, -	9,150 00
212	George H. Norman, in full for construction of road, -	3,517 00
213	John Howe and David Hall, on account of construction of culverts and bridge, -	1,650 00
214	Warren Foundry and Machine Co., on account of Water Pipes, -	17,979 96
215	J. Herbert Shedd, salary as chief engineer, -	1,500 00
216	Josiah Brown, salary as principal assistant engineer, -	1,000 00
217	Lebbeus B. Ward, salary as assistant engineer, -	250 00
218	Samuel M. Gray, " " " "	208 33
219	Charles H. Pierce, " " " "	125 00
220	Charles H. Swan, " " " "	125 00
221	Laurence Bradford, " " " "	83 33
222	William T. Schneider, " " " "	78 00
223	John E. Bowen, " student, " "	25 00
224	Cecil J. Howard, " " " "	25 00
225	Lucius J. Sampson, " " " "	25 00
226	George H. Slade, " " " "	25 00
227	George W. Crawford, " " " "	23 33
228	Edwin T. Brown, salary as student (on trial,) -	24 17
229	Herbert F. Keith, temporary assistance in Engineers dep't., -	107 50
230	Daniel D. Waterman, " " " " " "	82 20
231	Daniel Beckwith, " " " " " "	75 00
232	Phillip D. Borden Jr., " " " " " "	59 00
233	Nathaniel F. Davis, " " " " " "	52 00
234	Augustus F. Nagle, draughting, -	156 00
235	John F. Ward, draughting, -	84 00
236	Andrew B. Purdy, salary as inspector on Sockanosset reservoir and of pipe laying, -	125 00
237	Philauzo Etick, salary as inspector on Sockanosset reservoir, -	82 33
238	Thomas S. Baldwin, " " " " " "	40 00
239	Frederick W. Gilbert, " " " " " "	33 33
240	George H. Deforest, " " " " " "	22 00
241	Horatio L. Holmes, salary as inspector of pipes, -	125 00
242	H. G. H. Tarr, " " " " " "	66 00
243	Henry H. Brown, receiver of pipes, -	56 00
Amount carried forward,		\$70,093 42

REPORT OF THE WATER COMMISSIONERS.

17

	Amount brought forward,	-	-	-	\$70,093 42
244	William Aplin, salary as commissioner's clerk,	-	-	-	150 00
245	M. B. Lockwood, " water commissioner,	-	-	-	500 00
246	Charles E. Carpenter, " " " -	-	-	-	500 00
247	Joseph J. Cooke, " " " -	-	-	-	500 00
248	F. W. Lincoln Jr. & Co., instruments and repairing,	-	-	-	16 25
249	Providence Steam & Gas Pipe Co., tools,	-	-	-	61 44
250	Barker, Whitaker & Co., tools,	-	-	-	22 06
251	Herbert F. Keith, drawing-tables, &c.,	-	-	-	25 00
252	Cleveland & Brothers, furniture, &c.,	-	-	-	12 14
253	John Mason, drawing-board, &c.,	-	-	-	8 42
254	Albert D. Wheeler & Co., horse hire, engineer's department,	-	-	-	102 00
255	Tuttle & Hobbs, horse keeping and horse hire, engineer's department,	-	-	-	138 84
256	George H. Whitney, stationery, engineer's department,	-	-	-	103 40
257	Charles H. Pierce, sundries, " "	-	-	-	208 22
258	Marshall Woods, rent of offices, &c.,	-	-	-	341 39
259	Robert F. Nicola, care of offices, &c.,	-	-	-	54 82
260	Providence Gas Co., gas,	-	-	-	3 30
261	George H. Whitney, stationery for commissioners' office,	-	-	-	10 92
262	Providence Press Co., printing and advertising,	-	-	-	62 84
263	Noah D. Paine, advertising,	-	-	-	20 06
264	Knowles, Anthony & Danielson,	-	-	-	28 75
265	Builders Iron Foundry, 6 pairs pipe calipers,	-	-	-	325 00
266	" " " special castings,	-	-	-	55 64
267	Caleb Rodman, carting pipes,	-	-	-	1,049 20
268	Jackson & Cutler, freight of pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	661 41
					<hr/> \$75,052 22

FROM OCTOBER 1, 1870 to DECEMBER 31, 1870 INCLUSIVE.

269	Herbert F. Keith, engineer's level,	-	-	-	125 00
270	Providence Gas Co., rent of wharf and labor on pipes,	-	-	-	306 66
271	James Mac Donald & Co., on account of construction of Sockanosset reservoir,	-	-	-	7,500 00
272	Providence Steam and Gas Pipe Co., on account of trenching and back filling and laying water pipes,	-	-	-	3,050 00
273	Oliver C. Williams, telegraph wire to Pettaconset,	-	-	-	521 41
274	Boynton Bro's & Elsbree, work on line of force mains and on line of leading mains,	-	-	-	1,524 37
275	John Howe and David Hall, on account of construction of culverts and bridge on line of force mains,	-	-	-	1,050 00
276	Warren Foundry and Machine Co., on account of water pipes,	-	-	-	12,248 99
277	Steamer Panther, freight of water pipes from Philadelphia, (charged to Jesse W. Starr & Sons,)	-	-	-	870 77
278	George W. Lobdell, on account of work on line of leading mains,	-	-	-	360 00
279	Lebbeus B. Ward, salary as assistant engineer,	-	-	-	250 00
280	Samuel M. Gray, " " " -	-	-	-	208 33
281	Charles H. Pierce, " " " -	-	-	-	125 00
	Amount carried forward,	-	-	-	<hr/> \$28,140 53

	Amount brought forward,	-	-	\$28,140 53
282	Charles H. Swan, salary as assistant engineer,	-	-	125 00
283	Laurence Bradford, " " " "	-	-	125 00
284	William T. Schneider, " " " "	-	-	78 00
285	Herbert F. Keith, temporary assistance, engineering dep't,	-	-	120 00
286	Nathaniel F. Davis, " " " "	-	-	52 00
287	Daniel D. Waterman, " " " "	-	-	18 15
288	John E. Bowen, salary as student, engineering dep't,	-	-	25 00
289	Cecil J. Howard, " " " "	-	-	25 00
290	Lucius J. Sampson, " " " "	-	-	25 00
291	George H. Slade, " " " "	-	-	25 00
292	George W. Crawford, " " " "	-	-	25 00
293	Edwin T. Brown, (on trial), " " " "	-	-	25 00
294	George F. Munroe, " " " "	-	-	12 10
295	Augustus F. Nagle, services as draughtsman,	-	-	150 00
296	Horatio L. Holmes, salary as pipe inspector,	-	-	125 00
297	H. G. H. Tarr, " " " "	-	-	104 00
298	Andrew B. Purdy, salary as inspector of pipe-laying,	-	-	125 00
299	Philanzo Edick, salary as inspector on reservoir,	-	-	130 00
300	Thomas S. Baldwin, " " " "	-	-	100 00
301	Frederick W. Gilbert, " " " "	-	-	83 33
302	George H. Deforest, " " " "	-	-	52 00
303	H. H. Brown, salary as receiver of pipes,	-	104 00	
	paid for labor on " "	-	51 37	
				153 37
304	Caleb Rodman, hauling pipes,	-	-	1,308 66
305	Builders Iron Foundry, special castings,	-	200 74	
	testing pipe iron, "	-	110 00	
				310 74
306	John A. Moore, paid for labor,	-	171 96	
	sundries, " "	-	49 60	
				221 56
307	Hammond, Angell & Co., printing,	-	-	225 42
308	Jackson & Cutler, freight of water pipes (charged to Warren Foundry and Machine Co.,	-	-	341 87
309	John Howe and David Hall, in full for balance due for construction of culverts and bridge on line of force mains	-	-	1,829 84
310	George W. Lobdell, on account of work on line of leading mains,	-	-	1,500 00
311	Boynton Bro's & Elsbree, on account of work on line of leading mains and on line of force mains,	-	-	1,463 69
312	Providence Steam and Gas Pipe Co., on account of trenching and back-filling and laying water pipes,	-	-	3,300 00
313	James Mac Donald & Co., on account of construction of Sockanosset reservoir,	-	-	10,650 00
314	Asa Hill, labor for engineers,	-	-	39 80
315	D. F. Burlingame, sundries,	-	-	21 06
316	Cyrus Pearsons and Sylvester Stone, carting stone,	-	-	88 00
317	Schooner S. R. Thomas, freight of water pipes, (charged to Jesse W. Starr & Sons,)	-	-	680 00
	Amount carried forward,	-	-	\$51,826 12

	Amount brought forward,	-	-	\$51,826 12
318	Warren Foundry and Machine Co., on account of water pipes,	-	-	11,872 98
319	Patience W. Chace, farm in Warwick,	-	-	4,000 00
320	Jesse W. Starr & Sons, on account of water pipes,	-	-	8,166 52
321	Patrick Lynch, services in assisting engineers at reservoir,	-	-	45 50
322	Dexter Gorton & Co., on account of construction of a dwelling house at Pettaconset,	-	-	1,200 00
323	Schooner Warren Gates, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	175 00
324	Lebbens B. Ward, salary as assistant engineer,	-	-	168 67
325	Samuel M. Gray, " " "	-	-	208 33
326	Charles H. Pierce, " " "	-	-	125 00
327	Charles H. Swan, " " "	-	-	125 00
328	Laurence Bradford, " " "	-	-	125 00
329	William T. Schneider, " " "	-	-	100 00
330	Herbert F. Keith, temporary assistance, engineering dep't,	-	-	105 00
331	John W. Chadbourne, " " "	-	-	72 00
332	Nathaniel F. Davis, " " "	-	-	52 00
333	Daniel D. Waterman, " " "	-	-	19 20
334	John E. Bowen, salary as student engineering dep't	-	-	40 00
335	Lucius J. Sampson, " " "	-	-	31 39
336	George H. Slade, " " "	-	-	25 00
337	George W. Crawford, " " "	-	-	25 00
338	George F. Munroe, " " "	-	-	25 00
339	Leprilete Sweet 2d, " " on trial	-	-	17 50
340	Augustus F. Nagle, services as draughtsman, engineering dep't,	-	-	138 00
341	Andrew B. Purdy, salary as inspector of pipe-laying,	-	-	125 00
342	Philanzo Edick, " " on reservoir,	-	-	130 00
343	Thomas S. Baldwin, " " "	-	-	100 00
344	Frederick W. Gilbert, " " "	-	-	83 33
345	George H. Deforest, " " "	-	-	39 00
346	F. A. Seymour, " " "	-	-	40 00
347	Alfred W. Edick, " " "	-	-	200 00
348	Henry H. Brown, salary as receiver of pipes,	-	-	104 00
349	Patrick Lynch, services in assisting engineers,	-	-	33 25
350	Asa Hill, " " "	-	-	43 32
351	Sylvester Stone, hauling stone,	-	-	46 75
352	C. J. Pearsons, " " "	-	-	53 62
353	Narragansett Brick Co., bricks,	-	-	38 25
354	Builders Iron Foundry, special castings &c.,	-	-	165 11
355	J. A. Gowdey & Sons, steel-tape,	-	-	30 75
356	Earl Carpenter & Sons, ice,	-	-	16 80
357	Oliver C. Williams, telegraph machines,	-	-	426 00
358	Walter B. Vincent, stove, stove-pipe &c.,	-	-	32 50
359	Horatio L. Holmes, salary as pipe inspector &c.,	-	-	80 12
360	Caleb Rodman, hauling water pipes,	-	-	672 07
361	Manchester, Hopkins & Co., coal,	-	-	61 65
362	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	326 81
	Amount carried forward,	-	-	\$81,534 54

	Amount brought forward,	-	-	-	\$81,534 54
363	Richard U. Rhodes and wife, farm in Warwick,	-	-	-	9,000 00
364	American Wood Paper Co., water privileges, mill and other real estate in Pawtuxet,	-	-	-	50,000 00
365	James MacDonald & Co., labor for engineers &c.,	-	-	-	156 70
366	Charles H. Pierce, paid for labor on pipes,	-	-	-	111 53
367	Freeborn Johnson & Co., on account of construction of two dwelling houses at Pettaconset,	-	-	-	1,500 00
368	Providence Steam & Gas Pipe Co., on account of trenching and back-filling and laying water pipes,	-	-	-	6,450 00
369	Boynton Bro's & Elsbree, on account of work on line of force-mains, on line of leading mains &c.,	-	-	-	1,571 44
370	George W. Lobdell, on account of work on line of leading mains,	-	-	-	3,050 00
371	George W. Lobdell, laying culvert pipes &c.,	-	-	-	380 70
372	James Mac Donald & Co., on account of construction of Sockanosset Reservoir,	-	-	-	4,200 00
373	D. G. Beers & Co., city maps for engineering department,	-	-	-	50 00
374	Schooner Jane C. Patterson, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	224 74
375	James Mac Donald & Co., on account of construction of Sockanosset Reservoir,	-	-	-	5,000 00
376	Jesse W. Starr & Sons, on account of water pipes,	-	-	-	5,981 85
377	Schooner Elisha T. Smith, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	339 33
378	Schooner Allen Gurney, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	162 37
379	Schooner Sarah J. Gurney, do. (do.)	-	-	-	179 02
380	Joseph S. Budlong, land for Sockanosset reservoir, for line of force mains, &c.,	-	-	-	3,000 00
381	Richard Hill, land on Sockanosset hill,	-	-	-	2,000 00
382	Warren Foundry and Machine Co., on account of water pipes,	-	-	-	26,154 91
383	Schooner H. Blackman, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	120 28
384	Thomas S. Baldwin, salary as inspector on Sockanosset reservoir,	-	-	-	54 84
385	William Eddy, land for road at Pettaconset,	-	-	-	250 00
386	Alfred W. Edick, salary as inspector on Sockanosset reservoir,	-	-	-	61 29
387	George H. Deforest, " " "	-	-	-	80 00
388	George W. Case, land in Warwick,	-	-	-	60 00
389	Abby Ann Stafford, right of dower in "Aldridge farm,"	-	-	-	1,000 00
390	J. Herbert Shedd, salary as chief engineer,	-	-	-	1,500 00
391	Josiah Brown, " " principal assistant, " "	-	-	-	43 48
392	Charles D. Ward, " " " " "	-	-	-	233 87
393	Lebbeus B. Ward, " " assistant " "	-	-	-	250 00
394	Samuel M. Gray, " " " " "	-	-	-	208 33
395	Charles H. Pierce, " " " " "	-	-	-	125 00
396	Charles H. Swan, " " " " "	-	-	-	125 00
397	Lawrence Bradford, " " " " "	-	-	-	125 00
398	William T. Schneider, " " " " "	-	-	-	100 00
	Amount carried forward,	-	-	-	\$205,134 21

REPORT OF THE WATER COMMISSIONERS.

21

Amount brought forward,		\$205,134 21
399	John E. Bowen, salary as student, engineering department,	41 67
400	Lucius J. Sampson, " " " " "	33 33
401	George H. Slade, " " " " "	25 00
402	George W. Crawford, " " " " "	25 00
403	George F. Munro, " " " " "	25 00
404	Leprilete Sweet, 2d, " " "(on trial,) " "	25 00
405	Herbert F. Keith, temporary assistance " "	110 00
406	John W. Chadbourne, " " " " "	96 00
407	Nathaniel F. Davis, " " " " "	40 00
408	Daniel D. Waterman, " " " " "	15 45
409	Augustus F. Nagle, draughting, - - -	162 00
410	Asa Sisson, salary as pipe inspector, - -	229 17
411	Andrew B. Purdy, " " inspector of pipe laying, -	125 00
412	Philanzo Edick, " " " on reservoir, -	130 00
413	Frederick W. Gilbert, " " " " " -	83 33
414	Henry H. Brown, " " " receiver of pipes, -	104 00
415	William Aplin, " " " commissioners' clerk, -	200 00
416	James P. Kirkwood, consultations, - - -	200 00
417	M. B. Lockwood, salary as water commissioner, -	500 00
418	do., traveling expenses, as water commissioner 1 year, -	41 75
419	Charles E. Carpenter, salary as water commissioner, -	500 00
420	do., traveling expenses, &c., one year, -	12 15
421	Joseph J. Cooke, salary as water commissioner, -	500 00
422	do., petty office expenses, &c., six months -	17 00
423	Alfred Stone, plans and specifications for buildings, -	175 00
424	Marshall Woods, rent of offices, - - -	387 50
425	Patrick Lynch, labor, - - -	31 94
426	John Bateman, " - - -	10 94
427	Richard Hill, " and teaming, - - -	33 56
428	C. J. Pearsons, labor and teaming, - - -	31 75
429	William F. Tanner, labor, - - -	37 62
430	Manchester, Hopkins & Co., coal and wood, -	27 50
431	George H. Whitney, stationery for engineering department, -	68 99
432	Cleveland & Brothers, furniture, &c., " "	34 12
433	Albert D. Wheeler & Co., horse hire, " "	161 00
434	G. & C. P. Hutchins, gas fixtures, &c., " "	18 70
435	Wm. H. Fenner & Co., stoves, &c., " "	75 31
436	Barker, Whitaker & Co., tools, &c., " "	14 83
437	Narragansett Brick Co., bricks, - - -	20 50
438	Providence Gas Co., gas, - - -	18 00
439	Robert F. Nicola, care of offices, &c., - - -	69 12
440	Knowles, Anthony & Danielson, advertising, -	7 50
441	Providence Press Co., " - - -	5 06
442	Noah D. Payne, " - - -	4 50
443	Allen Chace, transfer of insurance, &c., - -	17 61
444	American Wood Paper Co., do. - - -	56 96
445	Charles H. Pierce, paid for labor on pipes and sundries, -	438 50
446	Jackson & Cutler, freight of pipes (charged to Warren Foundry and Machine Co.), - - -	257 50
Amount carried forward,		\$210,879 07

CITY OF PROVIDENCE.

	Amount brought forward,	-	\$210,379 07
447	Caleb Rodman, hauling pipes,	-	1,098 06
448	Providence Gas Co., rent of wharf,	\$175 00	
	labor on pipes,	318 60	
		-	493 60
449	Builders Iron Foundry, special castings, &c.,	-	319 13
450	N. T. Greene, examining pipe castings and traveling expenses,		97 05
451	Tuttle & Hobbs, horse keeping, horse hire, &c., eng'r dep.,		160 30
452	Dexter Gorton & Co., carpenters' work,		150 98
			<u>\$212,698 19</u>

RECAPITULATION.

From September 29, 1869, to December 31, 1869, inclusive,	\$8,157 02
" January 1, 1870, to March 31, 1870, "	101,545 75
" April 1, 1870, to June 30, 1870, "	33,375 29
" July 1, 1870, to September 30, 1870, "	75,052 22
" October 1, 1870, to December 31, 1870, "	212,693 19
Total expenditures to December 31, 1870, inclusive, agreeing with the credit to "Approved Bills" in the "Abstract of Accounts."	\$430,828 47

RECEIVED DURING THE QUARTER AND PAID TO THE
CITY TREASURER.

Of Thomas Hannay, for one quarter's rent of estate purchased of Miss Julia Bullock,	\$75 00
Of F. H. Stafford & Co., for rent of Pawtuxet Mill from Decem- ber 1, 1870, to December 31, 1870, inclusive,	83 33
	<u>\$158 33</u>

The total receipts to December 31, 1870, inclusive, as represented in the Abstract of Accounts by charge to "City Treasurer," and credits to "Hope Reservoir, for Land," "Sockanosset Reservoir for Land," and "Water Privileges, &c., at Paw- tuxet," have been	\$1,042 42
--	------------

ABSTRACT OF THE ACCOUNTS OF THE WATER COMMISSIONERS, TO DECEMBER 31, 1870, INCLUSIVE.

DR.

Hope reservoir, for land, - -	\$95,654 05
Sockanosset reservoir, for land, - -	13,020 00
" " " inspection, - -	2,319 53
" " " moving buildings, -	792 08
" " " gate houses, -	75 00
Line of leading mains, - -	219 45
Force main line, for land and damages, -	2,000 00
" " " labor, - -	118 41
Office furniture, stoves, gas fixtures, etc.,	551 66
Rent of offices, - -	512 50
Books, stationery, etc., - -	227 41
Fuel and lights, - -	85 14
Horse-hire by commissioners, - -	13 00
Janitor of rooms, - -	103 00
Traveling expenses of commissioners, -	98 47
Clerk's salary, - -	790 32
Commissioners' salaries, - -	7,500 00
Sundries, - -	69 72
Printing, - -	586 34
Advertising, - -	954 19
Fence posts, - -	286 20
Stop valves, - -	44 50
Storehouse and workshop, - -	734 42
Tools, - -	433 62
Labor on pipes, - -	958 69
Rent of wharf and pipe yard, - -	466 06
Cast iron water pipes, - -	114,098 65
Special castings, - -	749 82
Lumber, - -	227 86
Sockanosset hill cross road, - -	3,712 23
Pettaconset Telegraph Line, - -	947 41
Houses at Pettaconset, - -	277 43
Culverts and bridge on line of force mains,	6,754 84
Real estate in Warwick, - -	13,077 61
Water privileges, mill and other real estate in Pawtuxet, - -	50,056 96
Pettaconset pumping station, for land, -	1,250 00
James Mac Donald & Co., - -	52,400 00
Boylton Bro's. & Elsbree, - -	9,215 62
Providence Steam & Gas Pipe Co., -	12,800 00
Amount carried forward, -	<u>\$394,482 79</u>

Amount brought forward,	-	\$394,482 79
George W. Lobdell,	-	4,910 00
Dexter Gorton & Co.,	-	1,200 00
Freeborn Johnson & Co.,	-	1,500 00
City Treasurer,	-	1,042 42
Inspection of pipes,	-	1,975 92
Testing pipe iron,	-	221 00
Iron drain pipes and gate,	-	191 59
Carting pipes,	-	5,188 44
Inspection of pipe laying,	-	500 00

\$411,212 10**ENGINEERING DEPARTMENT—**

For Instruments,	-	827 85
Tools,	-	286 54
Furniture, stoves, gas fixtures, etc.,	-	804 07
Books, stationery, etc.,	-	699 53
Temporary assistance,	-	1,954 53
Labor,	-	1,311 82
Draughting,	-	842 00
Horse and wagon account,	-	789 71
Horse-keeping, shoeing, etc.,	-	369 62
Horse-hire,	-	590 00
Rent of offices,	-	726 39
Fuel and lights,	-	187 25
Janitor of rooms,	-	161 94
Experimental filter,	-	91 08
Sundries,	-	521 08
Salaries,	-	20,971 34
Boring,	-	1,565 51
Consultations,	-	320 00
Office building at Sockanosset reservoir,	-	563 22
“ “ “ Pettaconsett,	-	542 46
Stakes and strips,	-	108 93
Printing	-	16 62
Maps,	-	50 00

\$34,350 49\$445,562 65**CR.**

Hope reservoir, for land, (rent received,)	300 00
Sockanosset “ “ “ (wood sold,) -	659 09
Water privileges, etc., at Pawtuxet, (rent rec'd.)	83 33
Warren Foundry and Machine Co.,	9,516 76
Jesse W. Starr & Sons,	3,900 00
Caleb Rodman,	200 00
Bullders Iron Foundry,	75 00
Approved Bills,	430,828 47

\$445,562 65

1870-71.]

CITY DOCUMENT.

[No. 44.]

SIXTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

APRIL 1, 1871.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1871.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

Office No. 10 Woods' Building, corner of South Main and College streets.

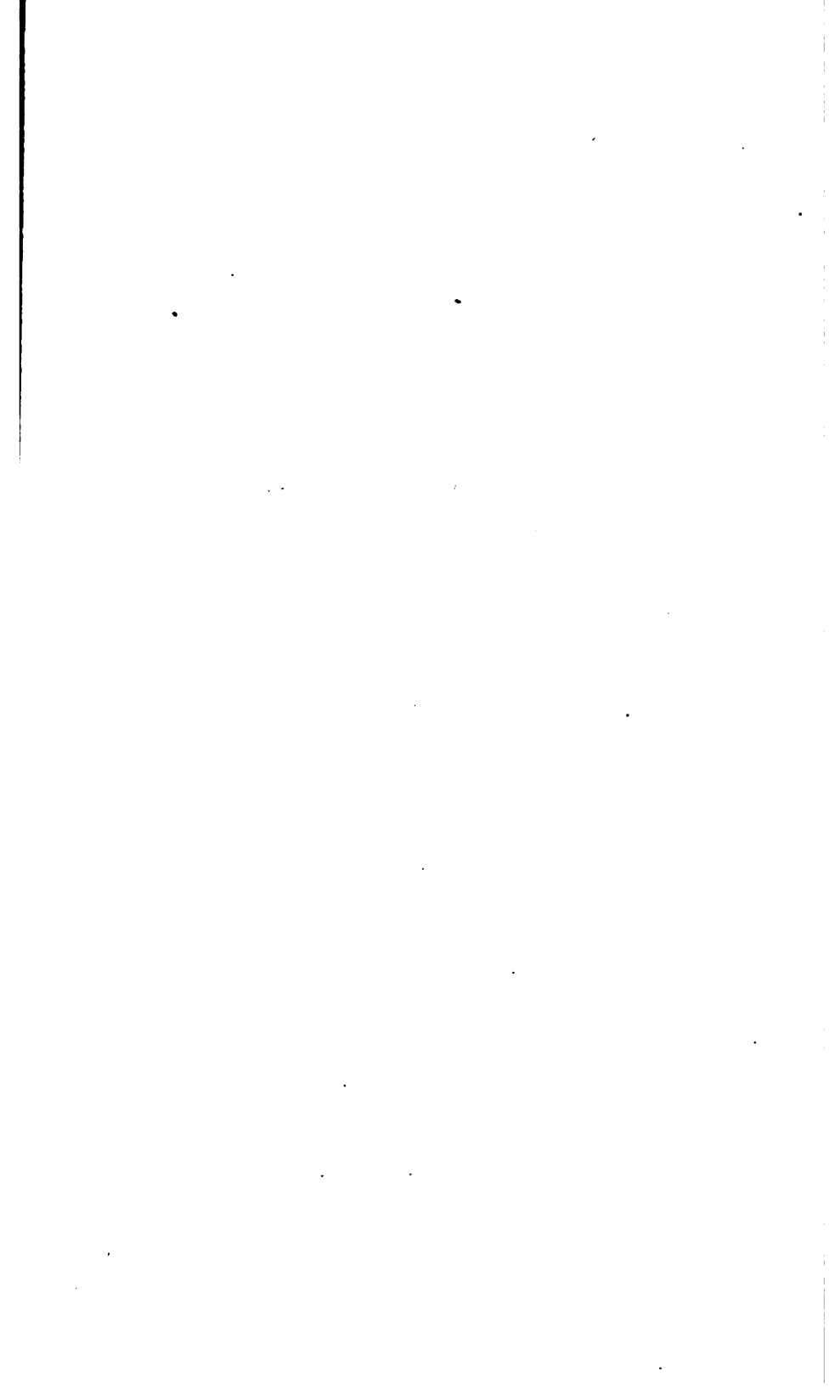
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 16 Woods' Building, corner of South Main and College streets.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, April 1, 1871. }

TO THE HONORABLE CITY COUNCIL :

The Water Commissioners respectfully submit their Sixth Quarterly Report :

The First Annual Report of the Chief Engineer has been received and published, since the last report of the Commissioners. It is an interesting and valuable document. A large edition was printed.

The weather during the months of January and February was so severe that comparatively little outdoor work was done. At Sockanosset reservoir, some stone was crushed ; some stone split for slope-lining, and some gravel carted for concrete. Work there was entirely suspended about mid-winter. The contractor, Mr. Mac Donald, is now here, and proposes to resume operations as soon as the embankment and bottom shall become sufficiently dry.

At Pettaconset pumping station, a good deal of grading was done.

Considerable rock was excavated on the lines of force and leading mains, and some grading was done on the latter. A few pipes were laid in the winter on each line.

The dwelling house at Pettaconset, the contract for which was made with Dexter Gorton & Co., was completed some time since, and is occupied by William T. Schneider, Assist-

ant Engineer. Two others subsequently contracted for with Freeborn Johnson & Co., to be completed on or before the first day of June next, are in process of construction.

The portion of the "Aldridge" farm, at Pettaconset, not immediately needed for water purposes, has been rented to William Elsbree, for one year, from March 25, 1871, for one hundred and twenty-five dollars.

The "Chace" farm in Warwick, with a slight reservation, has been rented to Burrows Chace, for one year from this date, for one hundred and seventy-five dollars.

The "Rhodes" farm in Warwick, with a like reservation, has been rented to Nathan A. Knight, for one year, from March 25, 1871, for two hundred and twenty-five dollars.

Finding that more room was needed for landing and storing water pipes, the Commissioners hired the southerly portion of Hill's wharf, on the west side, having a front on the harbor line of 214 feet, for two years from February 1, 1871, at eight hundred dollars per year.

A deed has been received from the heirs of Joseph Harris, deceased, of land heretofore taken for Sockanosset reservoir, and of land for portions of the lines of force and leading-mains, in accordance with the verbal agreement mentioned in the last report.

A deed has been received from Daniel O'Connor, of two lots of land on the southerly side of Olney street, (on one of which is a dwelling house,) needed for Hope reservoir purposes. One of these lots had been heretofore taken by authority of law.

Application has been made to the Supreme Court by Zuriel Potter, guardian and next friend of Charles Stafford and Edwin Francis Stafford, minors, devisees under the will of Lorey Stafford, deceased, in the matter of the taking of the "Aldridge" farm at Pettaconset, for the appointment of appraisers, as provided by law.

A fire-hydrant has been designed by the Chief Engineer, and one in accordance therewith has been made by Fales, Jenks & Sons, of Pawtucket, under his supervision. It has

been tested in regard to strength, convenience of use, and efficiency, and has proved satisfactory. This hydrant, when not in use, will be flush with the sidewalk, offering no obstruction to travel; the head will have four outlets, and will be carried by the engines and hose carriages. The hydrants will be so placed that any point on the line of a street may be reached by the attachment of a length of hose not exceeding on an average, two hundred feet.

The Commissioners stated in their Fourth Quarterly Report, October 1, 1870, that "negotiations have been nearly concluded for the construction of a Worthington Duplex Engine, of a capacity to raise 5,000,000 gallons one hundred feet high in 24 hours, to be in readiness to be used on the bank of the Pawtuxet, on the first of August next, for service at that point until another and more powerful engine can be planned and constructed, engine house erected, &c., &c. As intimated in the last report of the Commissioners, the engine first above named, is designed for permanent use at the Hope pumping station." Since the last report, a contract has been duly executed with Henry R. Worthington, and the work is considerably advanced. The price, set up in complete running order and warranted, is (\$35,000) thirty-five thousand dollars.

Frederick Graff, Esq., in his "Annual Report of the Chief Engineer of the Water Department of the City of Philadelphia, Presented to Councils, February 16, 1871," ("being the sixty-ninth annual report upon the condition of the works employed to distribute pure water to the citizens," in speaking of the new "Belmont Works," says:—

"Engine No. 1, 'Worthington Duplex' was started to regular work September 19, 1870, and has, since that time, been in daily operation, supplying the 24th and 27th wards.

"The engine has given entire satisfaction, and is considered by all competent, unprejudiced mechanics, as a very superior pumping engine, a well executed, creditable job, working without shock in a remarkably smooth and almost noiseless manner, reflecting great credit upon the inventor and contractor for ingenuity of design and perfection of workmanship.

"The water is raised by this engine through a thirty inch main, 4,167 feet long, to a vertical height of two hundred and eight feet above the height of Fairmount dam."

In speaking of the Roxborough works, he says:—

"A contract has been made with Mr. Worthington, for a duplex engine for these works, capable of raising 5,000,000 gallons per day, into the present reservoir, and so arranged that it can hereafter be made to raise 8,000,000 into a low reservoir, should such be built, without any other alteration than the enlargement of the plungers."

While those who have had experience with the Duplex Engine are enthusiastic in its praise, the height of suction made necessary by our plans in order to be secure from injury by freshets in the Pawtuxet, (at least 12 feet,) added to the depth of the Natural Filter Basin, precludes its permanent use at Pettaconset, even if there was no doubt otherwise of its superiority to the Cornish. It will be remembered, that in its temporary use by us, it will pump directly from the river, and be afterwards transferred to Hope reservoir, for which latter service it is *admirably* adapted.

The plans and drawings for the Cornish Engine, designed for permanent use at Pettaconset, have not yet been completed. As has been heretofore stated, the adoption of the plan of using a temporary engine gives abundant time to perfect a plan, and to construct an engine for permanent use.

The following Inspectors on the Reservoir left at the close of the working season: Philanzo Edick, Thomas S. Baldwin, Alfred W. Edick and George H. DeForest.

The following appointments have been made: Asa Sisson, of Wickford, R. I., (who had for some time discharged the duties of the office,) as Inspector of Pipes at the Warren Foundry, with a compensation of five dollars per day.

George B. Wheeler, of New Bedford, Mass., as Assistant Engineer, with a salary of fifteen hundred dollars per annum.

John G. Cooper, of Hartford, Conn., as Assistant Engineer, with a salary of fifteen hundred dollars per annum.

Howard A. Carson, of Brady's Bend, Armstrong Co. Penn.,

as Assistant Engineer, with a salary of fifteen hundred dollars per annum.

William B. Seekel, of Providence, as Principal Inspector of Masonry at Sockanosset reservoir, with a compensation of six dollars per day.

J. S. Utter, of Holland Patent, Oneida Co. N. Y., as inspector of Masonry, with a salary of one hundred dollars per month.

Jesse E. Gray, of Malden, Mass., as Inspector on Reservoir, with a salary of one hundred dollars per month.

Elbert Purdy, of Enfield Center, N. Y., as Inspector of Pipe laying, with a salary of one thousand dollars per annum.

Leprilte Sweet 2d, of Attleborough, Mass., as student in the engineering department, for three years from November 10, 1870, with a salary for the several years of three hundred, four hundred and five hundred dollars.

Powell H. Carpenter, of Blackstone, Mass., as temporary clerk on the pipe-wharves, with a compensation of two dollars per day.

The salary of Charles H. Pierce, Assistant Engineer, has been increased to two thousand dollars per annum, the increase dating from January 1, 1871.

The salary of Charles H. Swan, Assistant Engineer, has been increased to eighteen hundred dollars per annum, the increase to date from this day.

Lucius J. Sampson has been obliged to relinquish his position as student, in the engineering department, on account of poor health.

A proposal made by Fales, Jenks & Sons, of Pawtucket, to furnish gates, taps and stops, has been accepted.

A contract has been executed with Seth A. Mitchell, of Fairhaven, Mass., for building a road for a distance of 2,100 feet on the line of leading-mains, commencing at Sockanosset Hill Cross Road.

The work of laying pipes on North Main Street, was commenced on the 23d ultimo. Seventy-three 24 inch pipes, one cut pipe, and ten special castings have been laid, extending nine hundred and thirty-five feet southerly from Smith street.

Since the opening of the season, the pipes previously laid on the leading-main line beyond Pochasset river have been connected by other pipes with the reservoir, and two hundred and eight 30 inch pipes have been laid in Greenwich street, beyond the railroad bridge; also, one cut pipe and four special castings. The abutments of Pochasset bridge have been completed, and the pipes have been extended across.

The work of grading between the railroad bridge on Greenwich street and Pochasset river, is being vigorously prosecuted.

Two gangs of pipe-layers are now at work, each accompanied by an engineer and an inspector. It is expected that two more gangs will soon be employed.

A large number of pipes and special castings have been received from the foundries during the last month, and it is hoped that no further delay in the work will be caused by failures to deliver.

The expenditures during the last quarter have been \$112,975.55. The total expenditures to date, amount to \$543,804.02. The total amount of appropriations is \$800,000. The unexpended balance is \$256,195.98.

The amount of receipts during the last quarter, is \$280.15. The total amount of receipts to date, is \$1,322.57, all of which receipts have been paid to the City Treasurer.

The payments to be made within a few days, for pipes received during the last month, will require a large portion of the unexpended balance, and an additional appropriation of four hundred thousand dollars is asked for, which will probably be sufficient for the present quarter, during which period nearly all the pipes contracted for should be received.

A schedule of bills approved during the last quarter, and of receipts during the same time, and an abstract of accounts to March 31, 1871, are hereunto annexed and made part of this report.

M. B. LOCKWOOD,	} Water Commissioners.
CHAS. E. CARPENTER,	
JOSEPH J. COOKE,	

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS FROM JANUARY 1, 1871, TO MARCH 31, 1871, INCLUSIVE.

453	Charles H. Parkhurst, counsel fees from date of organization,	\$1,000 00
454	Boynton Bros. & Elsbree, on account of grading &c.,	898 44
455	George W. Lobdell, on account of grading and masonry,	2,400 00
456	Providence Steam and Gas Pipe Co., on account of trenching and back-filling, and laying water pipes,	6,300 00
457	James MacDonald & Co., on account of construction of Sockanosset reservoir,	3,400 00
458	Providence Washington Insurance Company, insurance on Pawtuxet Mill,	35 00
459	American Insurance Company, insurance on ditto,	35 00
460	Dexter Gorton & Co., balance for construction of dwelling house at Pettaconset, &c.,	1,655 18
461	George W. Lobdell, work on line of leading and force mains,	288 18
462	Boynton Bros. & Elsbree, on account of grading,	150 00
463	Warren Foundry and Machine Co., on account of water pipes,	29,640 45
464	Charles D. Ward, salary as principal assistant engineer,	250 00
465	Lebbeus B. Ward, " assistant engineer,	250 00
466	Samuel M. Gray, " " " "	208 33
467	Charles H. Pierce, " " " "	166 67
468	Charles H. Swan, " " " "	125 00
469	Laurence Bradford, " " " "	125 00
470	Wm. T. Schneider, " " " "	100 00
471	John E. Bowen, " student, engineering department,	41 67
472	Lucius J. Sampson, " " " "	33 33
473	George H. Slade, " " " "	25 00
474	George W. Crawford, " " " "	25 00
475	George F. Munro, " " " "	25 00
476	Leprillete Sweet, 2d, " " " "	25 00
477	John W. Chadbourne, temporary assistance, eng'ng department,	92 00
478	Nathaniel F. Davis, " " " "	42 00
479	Daniel D. Waterman, " " " "	21 45
480	Augustus F. Nagle, services as draughtsman,	156 00
481	Asa Sisson, " pipe inspector,	125 00
482	J. G. Hayward, " assistant pipe inspector,	54 00
483	Andrew J. Purdy, " inspector of pipe-laying,	125 00
484	Frederick W. Gilbert " " on reservoir,	83 33
485	Henry H. Brown, " recelver of pipes,	104 00
486	Patrick Lynch, labor for engineers at reservoir,	40 50
487	C. J. Persons, hauling stone and laying wall,	29 75
488	W. F. Tanner, labor for engineers &c., at Pettaconset,	35 12
489	D. F. Burlingame, repairing tools,	10 14
490	Builders Iron Foundry, special casting,	55 93
Amount carried forward,		\$48,176 47

	Amount brought forward,	-	-	-	\$48,176 47
491	Thomas Phillips & Co., service pipes, &c., for experiments, &c.,				137 94
492	Albert Daily & Co., lumber,	-	-	-	97 27
493	F. W. Lincoln Jr., & Co., steel tapes,	-	-	-	40 00
494	James H. Butler, materials and labor at pipe yard,	-	-	-	8 13
495	Charles H. Pierce, paid by him to laborers at pipe yard,	-	-	-	153 35
496	Caleb Rodman, hauling pipes,	-	-	-	791 23
497	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.)	-	-	-	565 16
498	Manchester, Hopkins & Co., coal and wood,	-	-	-	30 00
499	Herbert F. Keith, temporary assistance, engineer's department,	-	-	-	17 50
500	Heirs of Joseph Harris, deceased, three parcels of land in Cranston,	-	-	-	4,937 70
501	Providence Steam and Gas Pipe Co., on account of trenching and back-filling, and laying water pipes,	-	-	-	1,800 00
502	George W. Lobdell, on account of grading,	-	-	-	530 00
503	Boynnton Bros. & Elsbree, on account of grading,	-	-	-	513 12
504	James MacDonald & Co., " " construction of reservoir,	-	-	-	700 00
505	Richard Jones, services as pipe inspector,	-	-	-	85 00
506	Warren Foundry and Machine Co., on account of water pipes,	-	-	-	16,700 70
507	Charles D. Ward, salary as principal assistant engineer,	-	-	-	250 00
508	Lebbeus B. Ward, " assistant engineer,	-	-	-	250 00
509	Samuel M. Gray, " " " " " "	-	-	-	208 33
510	Charles H. Pierce, " " " " " "	-	-	-	166 66
511	Charles H. Swan, " " " " " "	-	-	-	125 00
512	Laurence Bradford, " " " " " "	-	-	-	125 00
513	William T. Schneider, " " " " " "	-	-	-	100 00
514	John E. Bowen, " student, engineering department,	-	-	-	41 67
515	Lucius J. Sampson, " " " " " "	-	-	-	33 33
516	George H. Slade, " " " " " "	-	-	-	25 00
517	George W. Crawford, " " " " " "	-	-	-	25 00
518	George F. Munro, " " " " " "	-	-	-	25 00
519	Leprilete Sweet, 2d, " " " " " "	-	-	-	25 00
520	John W. Chadbourne, temporary assistance, eng'ng department,	-	-	-	96 00
521	Nathaniel F. Davis, " " " " " "	-	-	-	48 00
522	Daniel D. Waterman, " " " " " "	-	-	-	19 20
523	Augustus F. Nagle, draughting, " " " "	-	-	-	138 00
524	Asa Sisson, services as pipe inspector,	-	-	-	125 00
525	Richard Jones, services as pipe inspector,	-	-	-	120 00
526	J. G. Hayward, " assistant pipe inspector,	-	-	-	72 00
527	Andrew B. Purdy, " inspector of pipe-laying,	-	-	-	125 00
528	Frederick W. Gilbert, salary as inspector on reservoir,	-	-	-	83 33
529	Henry H. Brown, salary as pipe receiver,	-	-	-	96 00
530	Patrick Lynch, labor for engineers at Sockanosset,	-	-	-	31 87
531	Daniel Follet Burlingame, desk, &c., for engineers,	-	-	-	9 02
532	William Franklin Tanner, labor, &c. for engineers at Pettaconset,	-	-	-	47 50
533	Charles H. Pierce, paid laborers at pipe wharf,	-	-	-	179 50
534	Albert Dailey & Co., lumber,	-	-	-	50 54
	Amount carried forward,	-	-	-	\$77,935 52

REPORT OF THE WATER COMMISSIONERS.

13

	Amount brought forward, - - -	\$77,935 52
535	Jackson & Cutler, freight of pipes, (charged to Warren Foundry and Machine Company.) - - -	200 23
536	Caleb Rodman, hauling pipes, - - -	23 97
537	James A. Potter & Co., Georgia pine timber, - - -	468 97
538	Schooner Florence, freight of pipes, (charged to Warren Foundry and Machine Co.) - - -	224 54
539	Providence Steam and Gas Pipe Co., on account of trenching and back-filling, and laying water pipes, - - -	850 00
540	Boynton Bro's. & Elsbree, grading, - - -	483 37
541	George W. Lobdell, grading, - - -	170 00
542	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.) - - -	435 08
543	Providence Steam & Gas Pipe Co., extra trenching, &c., - - -	710 96
544	R. D. Wood & Co., on account of water pipes, - - -	250 00
545	J. Q. A. Gardiner, damage to farm crops, &c., - - -	100 00
546	Warren Foundry and Machine Co., on account of water pipes, - - -	13,502 78
547	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.) - - -	419 76
548	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.) - - -	423 78
549	Daniel O'Connor, two lots of land with dwelling house on Olney street, - - -	5,500 00
550	Schooner Frank Maria, freight of water pipes, (charged to Warren Foundry and Machine Co.) - - -	253 72
551	J. Herbert Shedd, salary as Chief Engineer, - - -	1,500 00
552	Charles D. Ward, salary as principal assistant engineer, - - -	250 00
553	Lebbeus B. Ward, salary as assistant engineer, - - -	250 00
554	Samuel M. Gray, salary as assistant engineer, - - -	208 33
555	Charles H. Pierce, salary as assistant engineer, - - -	166 67
556	Charles H. Swan, salary as assistant engineer, - - -	125 00
557	William T. Schneider, salary as assistant engineer, - - -	100 00
558	Laurence Bradford, " " " " - - -	125 00
559	George B. Wheeler, " " " " - - -	44 35
560	John E. Bowen, " " student, engineering dep't. - - -	41 66
561	Lucius J. Sampson, " " " " " - - -	26 88
562	George H. Slade, " " " " " - - -	25 00
563	George W. Crawford, " " " " " - - -	25 00
564	George F. Munro, " " " " " - - -	25 00
565	Lepriete Sweet 2d, " " " " " - - -	25 00
566	Edward B. Williams, " " " " " - - -	15 32
567	Edmond B. Weston, " " " " " - - -	15 32
568	John W. Chadbourne, " " temporary assistant, - - -	108 00
569	Nathaniel F. Davis, " " " " " - - -	81 00
570	J. Rayner Edmands, " " " " " - - -	50 00
571	Daniel D. Waterman, " " " " " - - -	18 80
572	Augustus F. Nagle, " " draughtsman, - - -	162 00
573	Asa Slisson, " " pipe inspector, - - -	125 00
574	Richard Jones, " " " " " - - -	135 00
575	J. G. Hayward, " " assistant pipe inspector, - - -	81 00
	Amount carried forward, - - -	\$105,682 01

Amount brought forward,		\$105,682 01
576	Andrew B. Purdy, salary as inspector of pipe-laying,	125 00
577	Squire Livsey, " " " " "	44 00
578	Henry H. Brown, " " pipe receiver at wharf,	108 00
579	George M. Downing, " " weigher, "	36 00
580	Powell H. Carpenter, " " clerk, "	22 00
581	Frederick W. Gilbert, " " inspector on reservoir,	83 33
582	William Aplin, " " commissioners' clerk,	200 00
583	M. B. Lockwood, " " water commissioner,	500 00
584	Charles E. Carpenter, " " " "	500 00
585	Joseph J. Cooke, " " " "	500 00
586	Patrick Lynch, " " axman, &c.,	36 00
587	William F. Tanner, " " " "	41 50
588	Robert F. Nicola, " " janitor, -	66 09
589	Lebbeus B. Ward, paid for making tracings, -	80 00
590	William T. Schneider, Gurley transit, -	175 00
591	Joseph P. Rockwell, " level, -	120 00
592	H. M. Pool, repairing instruments, -	22 50
593	F. W. Lincoln jr. & Co., Boston rod, -	15 00
594	George B. Wheeler, tapes, &c., -	15 14
595	Charles H. Pierce, paid for sundries, -	141 64
596	Charles H. Pierce, paid for labor on pipe wharves, -	565 90
597	George H. Whitney, stationery, -	16 79
598	George H. Whitney, " for engineering department,	38 57
599	Sidney S. Rider & Bro., " " " &c., -	58 78
600	John A. Moore, lumber for strips and stakes, &c., -	61 74
601	Cleveland & Brothers, furniture, tracing cloth, &c., -	155 30
602	Manchester, Hopkins, & Co., coal, &c., -	67 50
603	Hammond, Angell & Co., paper and printing, -	254 46
604	Knowles, Anthony & Danielson, advertising, -	3 50
605	B. B. & R. Knight, telegraph poles, (half cost,) -	184 25
606	Barker, Whitaker & Co., platform scales, &c., -	361 47
607	Albert Dailey & Co., lumber, -	385 00
608	Fales, Jenks & Sons, iron drain pipe, -	8 75
609	Fuller Iron Works, iron well pipe, -	13 89
610	William H. Wallace & Co., iron bridge beams, -	112 58
611	Armstrong & Burlingame, house paper and hanging, -	39 00
612	Marshall Woods, rent of offices, -	387 50
613	Providence Gas Co., rent of wharf, -	175 00
614	" " " gas, -	15 12
615	William H. King, teaming, -	6 00
616	Cyrus J. Person, teaming and laying wall, -	27 00
617	William T. Schneider, paid for labor, -	11 90
618	Stephen B. Gardiner, damage to crops, &c., -	125 00
619	Tuttle & Hobbs, horse-keeping, &c., -	88 79
620	Albert D. Wheeler & Co., horse-hire, engineering dep't.,	60 00
621	John Mason, instruments, &c., -	62 92
622	Jackson & Cutler, freight of water pipes, (charged to Warren Foundry and Machine Co.,) -	312 22
623	Caleb Rodman, hauling water pipes, &c., -	863 41
		<hr/>
		\$112,975 55

RECEIVED DURING THE QUARTER AND PAID TO THE
CITY TREASURER.

Of James MacDonald & Co., for wood,	-	-	\$67 40
Of William Elsbree, for Leonard B. Inman's order on him in payment for rent of a portion of the "Aldridge" farm, at Pettaconset,	-	-	93 75
Of Thomas Hannay, for one quarter's rent of estate pur- chased of Miss Julia Bullock,	-	-	75 00
Of Peleg B. Cranston, for four months rent of "Randall" estate, in Pawtuxet,	-	-	44 00
			<hr/>
			\$280 15

ABSTRACT OF THE ACCOUNTS OF THE WATER COM-
MISSIONERS, TO MARCH 31, 1871, INCLUSIVE.

DR.

Hope reservoir, for land,	-	-	\$101,154 05
Sockanosset reservoir, for land,	-	-	16,071 35
" " " inspection,	-	-	2,569 52
" " " moving buildings,	-	-	792 08
" " " gate houses,	-	-	75 00
Line of leading mains, for labor and materials,	-	-	472 63
" " " " extra trenching, &c.,	-	-	305 95
" " " " land and damages.	-	-	1,135 00
Force main line, for land and damages,	-	-	2,976 35
" " " " labor,	-	-	222 06
" " " " extra trenching, &c.,	-	-	332 56
Office furniture, stoves, gas fixtures &c.,	-	-	552 16
Rent of offices,	-	-	975 00
Books, stationery, &c.,	-	-	259 20
Fuel and lights,	-	-	123 43
Horse-hire by commissioners,	-	-	16 00
Janitor of rooms,	-	-	127 00
Traveling expenses of commissioners,	-	-	98 47
			<hr/>
Amount carried forward,	-	-	\$128,257 81

Amount brought forward.	-	\$128,257 81	
Clerk's salary,	-	990 32	
Commissioners' salaries,	-	9,000 00	
Sundries,	-	69 72	
Printing,	-	803 44	
Advertising,	-	957 69	
Fence posts,	-	286 20	
Stop valves,	-	44 50	
Store-house and work-shop,	-	734 42	
Tools,	-	873 84	
Labor on pipes,	-	1,859 44	
Rent of wharf and pipe-yard,	-	641 66	
Cast iron water pipes,	-	186,700 83	
Special castings,	-	805 75	
Lumber,	-	776 58	
Sockanosset hill cross road,	-	3,712 23	
Pettaconset Telegraph line,	-	1,131 66	
Houses at Pettaconset,	-	8,191 70	
Culverts and bridge on line of force-mains,	-	6,754 84	
Real estate in Warwick,	-	13,083 59	
Water privileges, mill and other real estate in Pawtuxet,	-	50,126 96	
Pettaconset pumping station, for land,	-	1,250 00	
Pochasset bridge,	-	503 81	
Wharf salaries,	-	746 00	
James MacDonald & Co.,	-	56,500 00	
Boynton Brothers and Elsbree,	-	11,260 55	
Providence Steam & Gas Pipe Co.,	-	21,750 00	
George W. Lobdell,	-	8,010 00	
Freeborn Johnson & Co.,	-	1,500 00	
R. D. Wood & Co.,	-	250 00	
City Treasurer,	-	1,322 57	
Inspection of pipes,	-	2,517 92	
Testing pipe iron,	-	221 00	
Iron drain-pipes and gate,	-	200 34	
Carting pipes,	-	6,861 05	
Inspection of pipe-laying,	-	919 00	
Counsel fees,	-	1,000 00	
			\$525,615 42
ENGINEERING DEPARTMENT—			
For Instruments,	-	1,275 50	
Tools,	-	382 88	
Furniture, stoves, gas fixtures, &c.,	-	993 07	
Books, stationery, &c.	-	854 11	
Temporary assistance,	-	2,548 48	
Labor,	-	1,553 62	
Draughting,	-	1,378 00	
Horse and wagon account,	-	790 83	
Horse keeping, shoeing, &c.,	-	451 41	
Amounts carried forward,	-	\$10,227 90	\$525,615 42

REPORT OF THE WATER COMMISSIONERS.

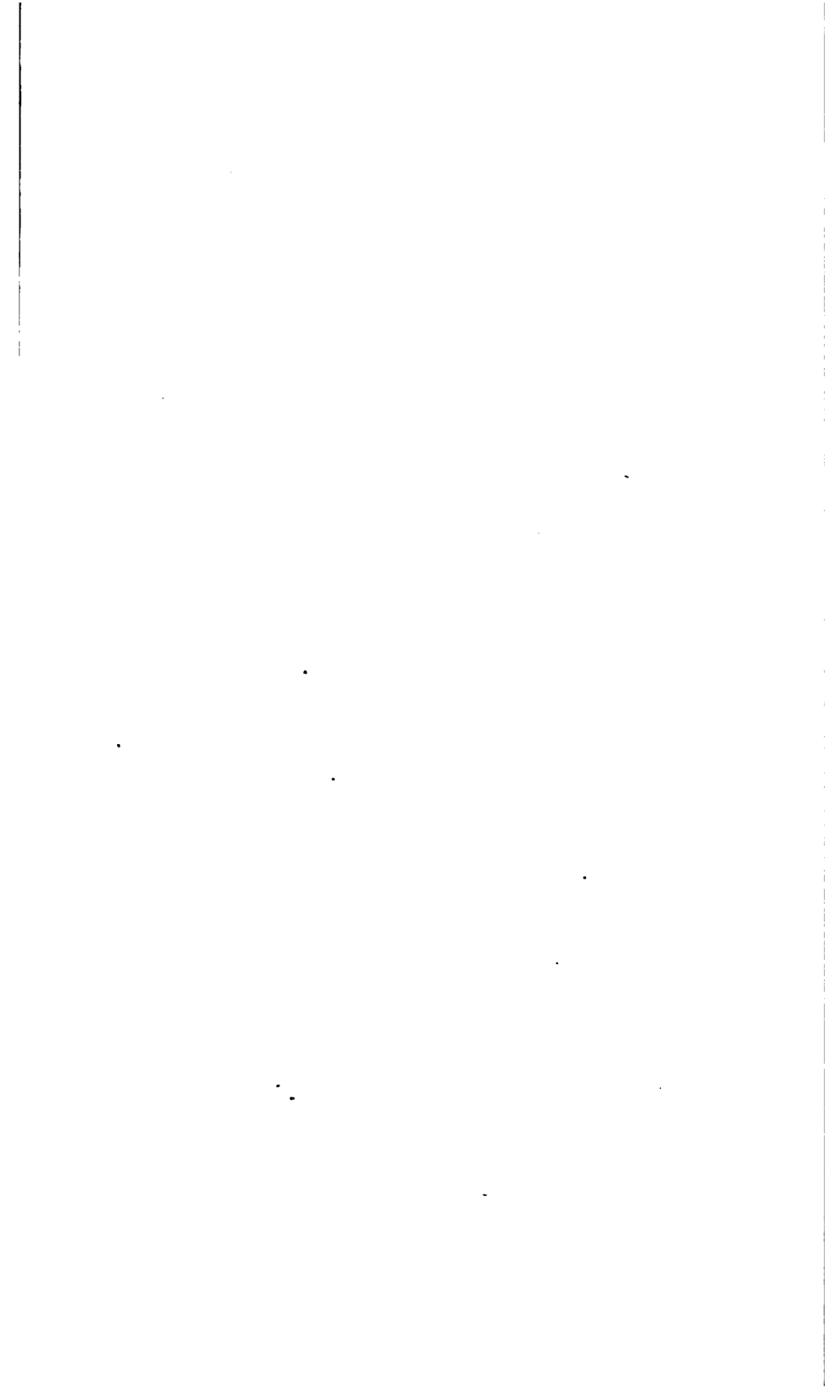
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Amounts brought-forward,	-	\$10,227 90	\$525,615 42
Horse-hire,	-	646 00	
Rent of offices,	-	951 39	
Fuel and lights,	-	262 46	
Janitor of rooms,	-	204 03	
Experimental filter,	-	91 08	
Sundries,	-	639 65	
Salaries,	-	261,739 86	
Test-wells,	-	1,579 40	
Consultations,	-	320 00	
Office building at Pettaconset,	-	542 46	
" " " Sockanosset reservoir,	-	563 22	
Stakes and strips,	-	169 92	
Printing,	-	28 38	
Maps,	-	50 00	
Service pipe experiments,	-	110 94	
			43,126 69
			<u>\$568,742 11</u>

CR.

Hope reservoir, for land, (rent received,)	-	\$375 00
Sockanosset reservoir, for land, (wood sold,)	-	726 49
Water privileges, &c., at Pawtuxet, (rent received,)	-	127 33
Warren Foundry and Machine Co.,	-	19,440 52
Jesse W. Starr & Sons,	-	3,900 00
Caleb Rodman,	-	200 00
Builders' Iron Foundry,	-	75 00
Pettaconset pumping station, for land, (rent received,)	-	93 75
Approved bills,	-	543,804 02

\$568,742 11



1871-72.]

CITY DOCUMENT.

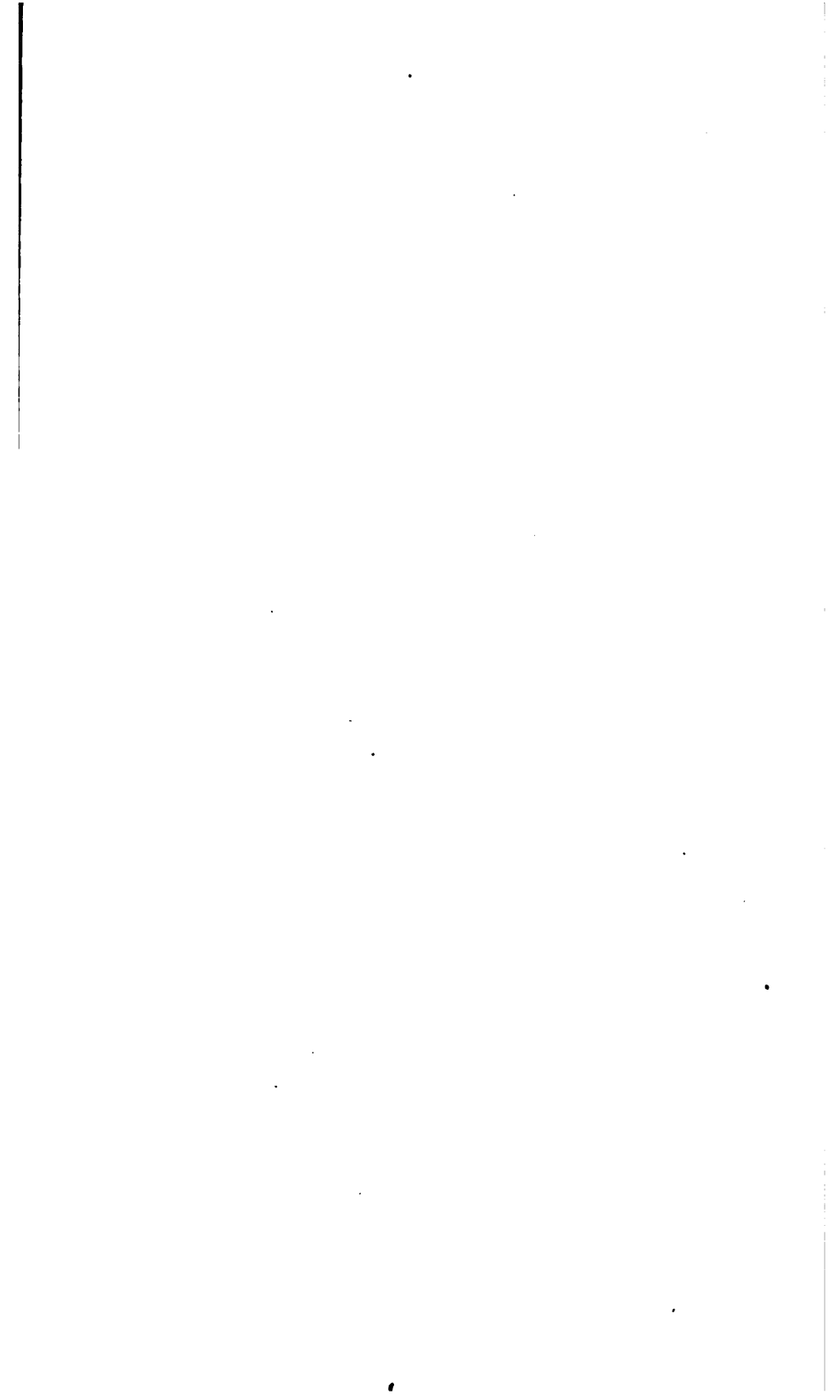
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SEVENTH QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

JULY 1, 1871.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1871.



●

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT. ●

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

Office No. 10 Woods' Building, corner of South Main and College streets.

CHIEF ENGINEER.

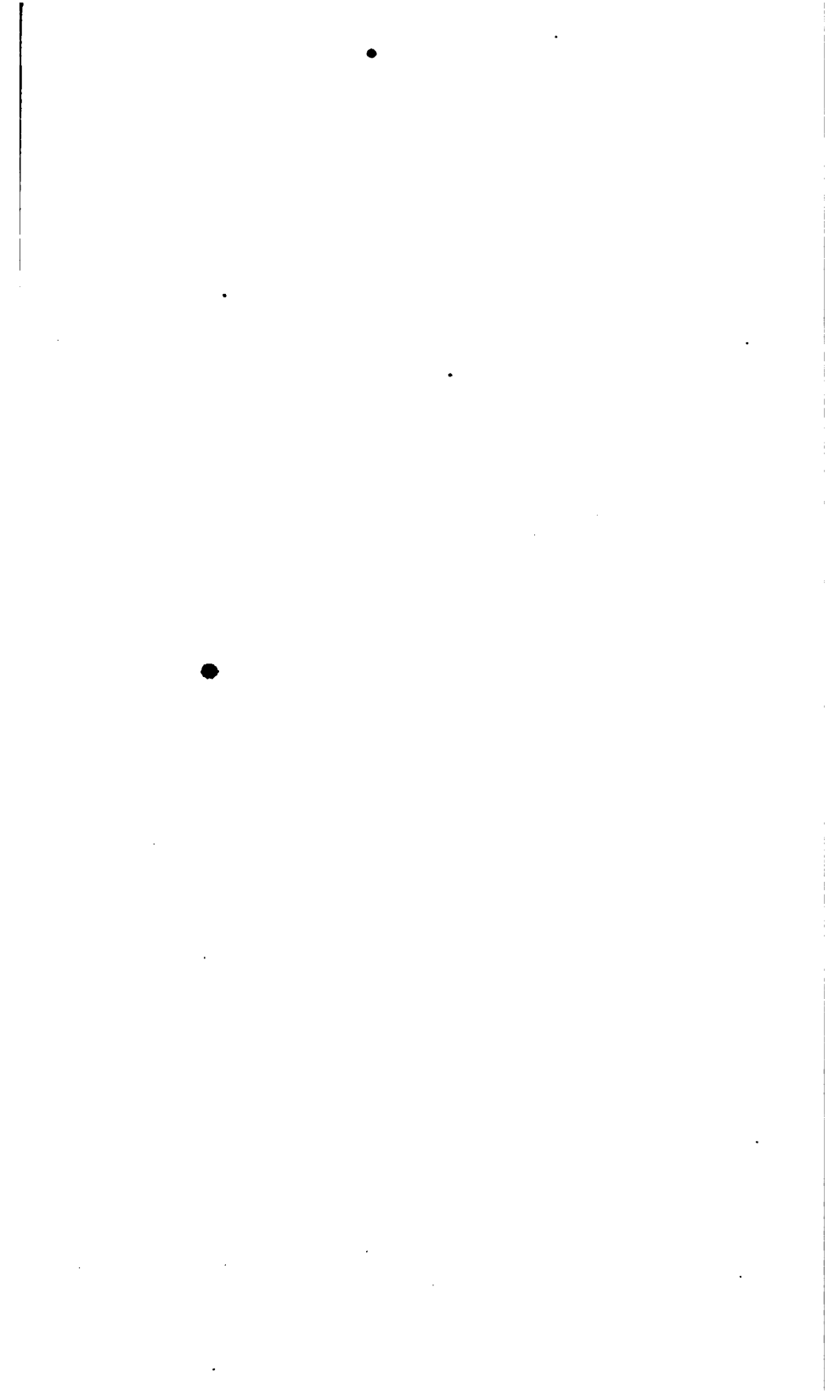
J. HERBERT SHEDD.

Office No. 6 Woods' Building, corner of South Main and College streets.

CONSULTING ENGINEER.

S. B. CUSHING.

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REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, July 1, 1871. }

TO THE HONORABLE CITY COUNCIL :

The Water Commissioners respectfully submit their Seventh Quarterly Report :

During the quarter the following proposals for doing work have been accepted :

Dexter Gorton & Co.'s, for the erection of a temporary engine house on the bank of the Pawtuxet river, at Pettaconset, for the sum of thirty-two hundred and sixty-six 55-100 dollars.

Cranston Furnace Co.'s, for furnishing coated valve covers, at three cents per pound.

Builders Iron Foundry's, for furnishing cast iron screw-piles at five and seven-eighths cents per pound, the Commissioners furnishing patterns.

Fuller Iron Works', for furnishing cast iron service boxes and covers at three and one-half cents per pound.

Hope Iron Works', for furnishing cast iron sluice boxes at three 58-100 dollars each.

Ditto, for furnishing 600 coated cast iron valve boxes at two and fifteen-sixteenths cents per pound.

Thomas Phillips & Co.'s, for laying service pipes in North Main street.

A contract has been executed with Caleb Rodman for carting water pipes, to terminate October 1, 1872.

Henry H. Brown, who had been employed as Receiver of Pipes, etc., since the middle of last September, has been appointed Superintendent of Pipe Yards, with a salary of fifteen hundred dollars per annum.

Edmond B. Weston has been appointed student in the Engineering Department, dating from March 13, 1871.

Mark Wilmarth has been appointed Student in the Engineering Department, dating from 11th April, 1871.

The salary of Andrew B. Purdy, Superintendent of Pipe Laying, has been increased to two thousand dollars per annum from May 1, 1871.

George W. Crawford, Student in the Engineering Department, died, after a very brief illness, on 15th of April last. As his services had been faithfully rendered, his salary was paid for the entire month.

William B. Seekell, Principal Inspector of Masonry, has resigned, his resignation taking effect this day.

A lease of rooms numbers 5 and 6, Woods' building, to James A. Rhodes for three years, from April 24, 1869, at an annual rent of five hundred and fifty dollars, has been transferred to the Commissioners, and an agreement executed with Marshall Woods, extending the lease for one year at the same rent.

On 9th of May last, the Commissioners notified John Carter Brown and Moses B. I. Goddard, Trustees of the estate of Thomas Lloyd Halsey, deceased, that they had taken, by authority of law, Lot No. 160, on the Halsey Plat Number 2. On 20th of same month an agreement of purchase and sale of said lot, with the dwelling house thereon, for six thousand dollars, was signed with Moses B. I. Goddard, Trustee; subject to the approval of the Court, if necessary.

Work on Sockanossett Reservoir did not recommence as early in the Spring as was desirable, and has not proceeded

so rapidly as to warrant the expectation of completion at the time specified in the contract—September 1, 1871. The Commissioners, however, still hope to introduce water into the city before the close of the present year.

The temporary engine house at Pettaconset, built by Dexter Gorton & Co. by contract, has been satisfactorily completed.

The two one and one-half story houses at Pettaconset, erected under contract by Freeborn Johnson & Co., have also been finished

Boynton Bro's and Elsbree are still engaged in grading and graveling roads at Pettaconset.

The work of grading, from the railroad bridge on Greenwich street to the Pochasset river, by George W. Lobdell, has not been carried on as rapidly as was expected and is still incomplete.

The work of grading that portion of the new road between the reservoir and Pochasset Bridge, which is under contract with Seth A. Mitchell, is progressing.

The work of laying the force-mains (one line) is nearly complete. The diameter of the pipes from the temporary engine house to the site of the permanent one, is twenty-four inches, and from that to the reservoir, thirty-six inches.

The Worthington Engine is nearly ready to be forwarded to its location. The boilers, built for Mr. Worthington by the Providence Steam Engine Co., are ready for transportation.

The work of laying 24 inch mains in North Main street, has been completed from Market Square to Smith street. The 6 inch pipe for tapping has also been laid. The work of lay-

ing branch pipes for hydrants and cross streets is now going on and it is expected soon to commence laying service pipes to the sidewalks. The mains on North Main street are connected with the line on Steeple street by two opposite curves.

The following is a statement of the length of pipe laid during the last quarter ; the sizes of the pipes and the totals from the commencement of the work :

36 INCH.

On Force-Main Line,	-	-	-	3,079 feet.
Previously,	.	.	.	1,895 "
Total,				4,974 feet.
Including 3 cut pipes, 1 curved pipe, 1 man hole and 2 sleeves.				

30 INCH.

In Greenwich, Dyer, Eddy Dean and Wash- ington streets,	-	-	-	12,543 feet.
Previously (including the New London Turn- pike, so called, and the new road to the reservoir),	-	-	-	12,392 feet.
Total,				24,935 feet.
Including 16 cut pipes, 5 curved pipes, 37 branches, 2 reducers, 2 sleeves, 3 man- holes and 5 blow-offs.				

24 INCH.

In Dyer Street, Exchange Place, Mathew- son, Richmond, Washington, Ship, North Main and Steeple streets,	-	-	-	5,908 feet.
On Temporary Force-Main line,	-	-	-	660 feet.
				6,568 feet.
Previously,	-	-	-	935 "
Total,				7,503 feet.

Including 19 cut pipes, 15 curved pipes, 16 branches, 5 sleeves, 2 man-holes, 3 blow-offs and 7 gates.

20 INCH.

In Dean Street, 499 feet.

Including 3 branches and 2 hydrant branches.

8 INCH.

In Friendship, Elm and Point Streets, . . . 5,830 feet.

Including 18 cut pipes, 3 curved pipes, 1 bevel-hub, 17 branches, 8 hydrant branches and 11 gates.

6 INCH.

In High, Washington, North Main and Dean Streets, 6,663 feet

Including 19 cut pipes, 2 curved pipes, 20 branches and 8 gates.

Length of pipes of all sizes laid during the last quarter,	34,682 feet.
Previously,	15,222 "

Total,	49,904 feet,
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or $9\frac{2184}{1000}$ miles.

Application having been made by the Commissioners to the City Solicitor for his opinion in regard to the rights of individuals who have laid drains in the streets, he replied:

"In my opinion the permission usually granted by the City to individuals to construct drains in the public streets only gives to such individuals the right to continue such drains so long as such drains do not interfere with the public convenience,

"If the Water Commissioners find it necessary to remove such drains for the purpose of properly placing the water pipes they are under no legal obligation to replace or rebuild such drains."

The Commissioners stated, in their last report, that "Application has been made to the Supreme Court by Zuriel Potter, guardian and next friend of Charles Stafford and Edwin Francis Stafford, minors, devisees under the will of Lorey Stafford, deceased, in the matter of the taking of the 'Aldridge' farm at Pettaconset, for the appointment of appraisers, as provided by law."

The appraisers have not yet been appointed.

The amount of expenditures during the last			
quarter, is	-	-	\$429,171 68
The total amount of expenditures is	-	-	972,975 70
" " " " appropriations is	-	-	1,200,000 00
The unexpended balance is	-	-	227,024 30
Amount received during the last quarter			
and paid to the City Treasurer,	-	-	118 75
Total amount of receipts,	-	-	1,441 32

An additional appropriation will probably be asked for before the close of the present quarter.

A schedule of bills approved during the last quarter and of receipts during the same time and an abstract of accounts to June 30, 1871, inclusive, are hereunto appended and made parts of this report.

M. B. LOCKWOOD,	}	Water Commissioners.
CHAS. E. CARPENTER,		
JOSEPH J. COOKE,		

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS FROM APRIL 1, 1871, TO JUNE 30, 1871, INCLUSIVE.

* Charged to R. D. Wood & Co.

† Charged to Warren Foundry and Machine Company.

624	*Schooner Artie Garwood, freight of water pipes,	-	865 81
625	Warren Foundry and Machine Co., on account of water pipes,	60,000 00	
626	R. D. Wood & Co., do. do.	18,000 00	
627	†Schooner Mary Louisa, freight of water pipes,	-	288 51
628	†Schooner North Pacific, " " "	-	288 44
629	†Schooner Allen Gurney, " " "	-	453 60
630	†Schooner Sarah J. Gurney, " " "	-	455 67
631	Jackson & Cutler, derrick,	-	200 00
632	Boynton Bros'. & Elsbree, on account of grading, &c.,		340 00
633	Providence Steam and Gas Pipe Co., on account of trenching and back-filling and laying water pipes,	-	4,425 00
634	George W. Lobdell, on account of grading and masonry,	-	2,260 00
635	Charles H. Pierce, paid by him for labor,	-	61 32
636	R. D. Wood & Co, on account of water pipes -	-	250 00
637	†Schooner David G. Floyd, freight of water pipes,	-	338 67
638	†Schooner W. D. Cargill, " " "	-	328 35
639	Builders Iron Foundry, special castings, &c.,	-	11,522 79
640	†Schooner Clyde, freight of water pipes,	-	462 55
641	Jesse W. Starr & Sons, on account of water pipes,	-	3,900 00
642	William Aplin, paid by him for recording deeds &c., in the towns of Cranston and Warwick,	-	22 49
643	†Jackson & Cutler, freight of water pipes,	-	160 03
644	*Schooner William Rice,	-	665 00
645	†Schooner John Warren,	-	319 07
646	John Salisbury, materials and labor in construction of derrick,		494 81
647	†Brig Anna Elizabeth, freight of water pipes,	-	280 70
648	Boston Machine Company, making tools for tapping pipes, &c.,		56 66
649	Henry C. Whitaker, iron safe and furniture for engineers offices,		525 00
650	*Schooner D. S. Siner, freight of water pipes,	-	588 26
651	†Jackson & Cutler, " " "	-	241 22
652	†Schooner B. H. Warford, " " "	-	327 29
653	†Schooner Beulah E. Sharp, " " "	-	343 86
654	†Schooner James M. Bayliss, " " "	-	401 97
655	†Schooner John Burly, " " "	-	157 43
656	Charles D. Ward, salary as principal assistant engineer,		250 00

Amount carried forward, - - \$109,314 50

Amount brought forward,				\$109,314 50
657	Lebbeus B. Ward,	salary as assistant engineer,	-	250 00
658	Samuel M. Gray,	" " "	-	208 33
659	Charles H. Pierce,	" " "	-	166 67
660	Charles H. Swan,	" " "	-	150 00
661	William T. Schneider,	" " "	-	100 00
662	Laurence Bradford,	" " "	-	125 00
663	George B. Wheeler,	" " " &c.,	-	145 83
664	John Geo. Cooper,	" " "	-	125 00
665	Howard A. Carson,	" " "	-	125 00
666	John E. Bowen,	student in engineering department,		41 67
667	George H. Slade,	" " " "		25 00
668	George W. Crawford,	" " " "		25 00
669	George F. Munro,	" " " "		25 00
670	Leprilete Sweet, 2d,	" " " "		25 00
671	Edmond B. Weston,	" " " "		25 00
672	Edward B. Williams,	" " on trial, " "		25 00
673	Henry N. Francis,	" " " "		23 33
674	Gilbert Kenyon,	" " " "		18 33
675	Louis R. Daniels,	" " " "		17 50
676	Mark Wilmarth,	" " " "		17 50
677	John W. Chadbourne,	salary as temp. ass't. in en'g. department,		100 00
678	Nathaniel F. Davis,	" " "		70 50
679	J. Rayner Edmands,	" " "		60 00
680	Daniel D. Waterman,	" " "		26 80
681	Andrew B. Eddy,	" " "		33 40
682	Walter F. Slade,	" " "		21 30
683	Augustus F. Nagle,	draughtsman,		150 00
684	Asa Sisson,	pipe inspector,	-	125 00
685	Richard Jones,	" "	-	125 00
686	Joseph Sisson,	" "	-	116 67
687	J. G. Hayward,	assistant pipe inspector,		75 00
688	Andrew B. Purdy,	inspector of pipe-laying,		125 00
689	Squire Livsey,	" " "	-	100 00
690	Elbert Purdy,	" " "	-	83 33
691	Foster M. Rhodes,	" " "	-	66 66
692	John E. Chadwick,	" " "	-	64 00
693	Henry H. Brown,	receiver of pipes,	-	100 00
694	George M. Downing,	weigher " "	-	75 00
695	Powell H. Carpenter,	clerk at wharves,	-	50 00
696	Frederick W. Gilbert,	inspector of reservoirs,	-	83 33
697	Jesse E. Gray,	" " "	-	36 67
698	George H. DeForest,	" " "	-	14 00
699	William B. Seekel,	principal inspector of masonry,		150 00
700	Jacob S. Utter,	inspector, " "	-	30 00
701	William F. Tanner,	axman, - - -	-	46 00
702	Patrick Lynch,	" - - -	-	43 75
703	Charles H. Pierce,	paid laborers at pipe wharves,	-	1,189 30
704	do.	" for sundries, -	-	139 59
Amount carried forward,				\$114,277 96

	Amount brought forward, - - -	\$114,277 96
705	Freeborn & Crowell, painting, - - -	18 49
705	H. M. Coombs, leather folio, engineering department, - - -	13 00
707	James Crawford, painting office, &c., - - -	47 50
708	Caleb Rodman, hauling water pipes, - - -	2,141 30
709	* Schooner J. J. Little, freight of water pipes, - - -	452 43
710	R. D. Wood & Co., on account of " - - -	250 00
711	Albert Dailey & Co., lumber, - - -	459 20
712	† Schooner Minnehaha, freight of water pipes, - - -	126 49
713	Boynton Bro's & Elsbree, excavation, &c., - - -	816 06
714	George W. Lobdell, grading, &c., - - -	2,450 00
715	Seth A. Mitchell, making road, - - -	875 00
715	Providence Steam & Gas Pipe Co., trenching and backfilling and laying water pipes, - - -	10,275 00
717	† Jackson & Cutler, freight of water pipes, - - -	446 00
718	Freeborn Johnson & Co., on account of construction of two dwelling houses, at Pettaconset, - - -	1,000 00
719	Warren Foundry and Machine Co., on account of water pipes, - - -	318 46
720	Builders Iron Foundry, special castings, - - -	4,651 20
721	* Schooner Rescue, freight of water pipes, - - -	519 95
722	† " William H. Bowen, freight of water pipes, - - -	119 31
723	† " Sarah Leverne, " " - - -	54 41
724	† " Sarah A. Falconer, " " - - -	295 07
725	Warren Foundry & Machine Co., on account of water pipes, - - -	50,000 00
726	R. D. Wood & Co., on account of water pipes, - - -	250 00
727	† Schooner Blackstone, freight, " " - - -	140 48
728	† " Fashion, " " - - -	91 09
729	† " Peerless, " " - - -	203 44
730	R. D. Wood & Co., on account " " - - -	7,259 98
731	† Schooner Silas Brainerd, freight " " - - -	185 60
732	Charles D. Ward, salary as principal assistant engineer, - - -	250 00
733	Lebbens B. Ward, " " " - - -	250 00
734	Samuel M. Gray, " " " - - -	208 33
735	Charles H. Pierce, " " " - - -	166 67
736	Charles H. Swan, salary as assistant engineer, - - -	150 00
737	William T. Schneider, " " " - - -	100 00
738	Laurence Bradford, " " " - - -	125 00
739	George B. Wheeler, " " " &c., - - -	166 66
740	John Geo. Cooper, " " " - - -	125 90
741	Howard A. Carson, " " " - - -	125 00
742	John E. Bowen, " student, engineering department, - - -	41 67
743	George H. Slade, " " " - - -	25 00
744	George F. Munro, " " " - - -	25 00
745	Leprilte Sweet, 2d, " " " - - -	25 00
746	Edmond B. Weston, " " " - - -	25 00
747	Edward B. Williams, " on trial, " - - -	25 00
748	Henry N. Francis, " " " - - -	25 00
749	Gilbert Kenyon, " " " - - -	25 00
	Amount carried forward, - - -	\$199,121 35

Amount brought forward,				\$199,121 35
750	Louis R. Daniels, salary as student on trial, engineering dep't,			25 00
751	Mark Wilmarth, " " " "			25 00
752	John W. Chadborne, " temporary assistant, " "			108 00
753	Nathaniel F. Davis, " " " "			81 00
754	J. Rayner Edmands, " " " "			63 75
755	Daniel D. Waterman, " " " "			28 60
756	Andrew B. Eddy, " " " "			37 35
757	Walter F. Slade, " " " "			17 85
758	Charles R. Neubell, " " " "			81 00
759	Augustus F. Nagle, " draughtsman, - -			162 00
760	Asa Sisson, " pipe inspector, -			125 00
761	Richard Jones, " " -			135 00
762	Joseph Sisson, " " -			125 00
763	J. G. Hayward, " assistant pipe inspector, -			81 00
764	Andrew B. Purdy, " inspector of pipe work, -			166 67
765	Squire Livsey, " " pipe-laying, -			108 00
766	Elbert Purdy, " " -			83 33
767	Foster M. Rhodes, " " -			83 33
768	John E. Chadwick, " " -			24 00
769	Samuel R. Eccleston, " " -			64 51
770	Sylvester J. Chace, " " -			16 13
771	Henry H. Brown, " superintendent of pipe yards, -			125 00
772	George M. Downing, " weigher of pipes, -			93 00
773	Powell H. Carpenter, " clerk at wharves, -			48 00
774	Frederick W. Gilbert, " inspector at reservoir, -			83 33
775	Jesse E. Gray, " inspector at reservoir, -			100 00
776	George H. DeForest, " " -			43 00
777	William B. Seekell, " principal inspector of masonry, -			162 00
778	Jacob S. Utter, " inspector -			100 00
779	William F. Tanner, " axman, - -			46 00
780	Patrick Lynch, " " - -			21 88
781	John Boylan, " " - -			45 00
782	Freeborn Potter, hauling stone, - -			25 35
783	Sylvester Stone, " " - -			115 50
784	James A. Budlong, " " - -			12 50
785	Daniel F. Burlingame, repairing tools, &c, - -			6 77
786	Thomas J. Hill, rent of wharf, - -			179 43
787	Thomas Phillips & Co., brass tubing, &c., - -			28 07
788	Charles H. George & Co., tools, - -			13 69
789	Fales, Jenks & Sons, hose, &c., for testing hydrant, - -			17 34
790	F. W. Lincoln Jr, & Co., tracing cloth, - -			37 00
791	Charles H. Pierce, paid for labor on pipes, - -			673 85
792	do. do. sundries, - -			87 87
793	Laurence Bradford, " labor, - -			44 58
794	C. D. Ward, engineers' instruments, - -			210 00
795	S. M. Gray, use of instruments - -			10 00
796	Caleb Rodman, hauling pipes, - -			1,481 59
797	*Schooner Sarah R. Thomas, freight of water pipes, - -			271 89
Amount carried forward,				\$204,845 81

REPORT OF THE WATER COMMISSIONERS.

15

	Amount brought forward,			\$204,845 81
798	Warren Foundry and Machine Co., on account of water pipes,			65,949 50
799	do, do., " "			40,000 00
800	Boydton Bro's. & Elsbree, grading, &c.,			3,757 98
801	James MacDonald & Co., on account of construction of Sockanosset reservoir,			4,800 00
802	George W. Lobdell, grading,			580 00
803	Seth A. Mitchell, making road,			350 00
804	*Schooner Shekinah, freight of water pipes,			17 38
805	†Sloop Oregon, " "			48 83
806	Providence Steam and Gas Pipe Co., trenching and back-filling, and laying water pipes,			14,934 41
807	R. D. Wood, & Co., on account of water pipes,			65,387 46
808	Walter Pickett, services as clerk at pipe wharf,			22 00
809	Builders Iron Foundry, special castings, &c.,			4,636 65
810	Fuller Iron Works, " "			1,730 91
811	Fales, Jenks & Sons, water gates,			1,427 00
812	George B. Wheeler, King level,			125 00
813	Laurence Bradford, paid to laborers,			122 19
814	James MacDonald, & Co., on account of construction of Sockanosset Reservoir,			1,000 00
815	†Schooner Pointer, freight of water pipes,			110 25
816	†Schooner Julia Ann, " "			47 11
817	Warren Foundry and Machine Co., on account of water pipes,			2,986 05
818	*Schooner Sallie C. Morton, freight of water pipes,			212 70
819	*Schooner Manantico, on account of freight of water pipes,			250 00
820	†Schooner Lucy C. Hall " "			53 73
821	†Schooner Minnehaha, " "			262 60
822	Providence Gas Co., rent of wharf,			175 00
823	J. Herbert Shedd, salary as chief engineer,			1,500 00
824	Charles D. Ward, salary as principal assistant engineer,			250 00
825	Lebbeus B. Ward, " assistant engineer,			187 50
826	Samuel M. Gray, " " "			208 33
827	Charles H. Pierce, " " "			166 67
828	Charles H. Swan, " " "			150 00
829	William T. Schneider, " " "			100 00
830	Laurence Bradford, " " "			125 00
831	George B. Wheeler, " " &c.,			166 66
832	John Geo. Cooper, " " "			125 00
833	Howard A. Carson, " " "			125 00
834	John E. Bowen, " student, engineering department,			41 67
835	George H. Slade, " " "			33 33
836	George F. Munro, " " "			25 00
837	Leprilete Sweet, 2d, " " "			25 00
838	Edmond B. Weston, " " "			25 00
839	Edward B. Williams, salary as student (on trial) eng'ng. dep't.			25 00
840	Henry N. Francis, " " " " "			25 00
841	Gilbert Kenyon, " " " " "			25 00
842	Louis R. Daniels, " " " " "			25 00
	Amount carried forward,			\$417,186 69

Amount brought forward, - - -			\$417,186 69
843	Mark Wilmarth, salary as student	eng'ng dep't,	25 00
844	Herbert M. Lillibridge, " (on trial)	" "	15 83
845	Nathaniel F. Davis, " temporary assistant,	eng'ng. dep't,	72 00
846	J. Rayner Edmands, " " " "	" "	73 50
847	Daniel D. Waterman, " " " "	" "	24 60
848	Andrew B. Eddy, " temporary assistant, engineer		
	ing department, - - -		39 15
849	Walter F. Slade, salary as temporary assistant, engineer-		
	ing department, - - -		10 80
850	Charles R. Newbell, salary as temporary assistant, engin-		
	ering department, - - -		69 75
851	Augustus F. Nagle, salary as draughtsman, engineering		
	department, - - -		156 00
852	Asa Sisson, salary as pipe inspector, - - -		125 00
853	Joseph Sisson, " " - - -		125 00
854	J. G. Hayward, " assistant pipe inspector, -		78 00
855	Andrew B. Purdy, " superintendent of pipe-laying,		166 67
856	Squire Livsey, " inspector, " "		104 00
857	Elbert Purdy, " " " "		83 33
858	Foster M. Rhodes, " " " "		83 33
859	Samuel R. Eccleston, " " " "		83 33
860	Sylvester J. Chace, " " " "		55 56
861	Henry G. Dennis, " " " "		27 78
862	Henry H. Brown, " superintendent of pipe-yards,		125 00
863	George M. Downing, " weigher of pipes, -		6 00
864	Reginald C. Brown, " clerk at pipe wharf, -		28 00
865	Frederick W. Gilbert, " inspector at reservoir, -		83 33
866	Jesse E. Gray, " " " -		100 00
867	George H. De Forest, " " " -		47 00
868	William B. Seekell, " principal inspector of masonry,		156 00
869	Jacob S. Utter, " inspector " -		100 00
870	William F. Tanner, " axman, - - -		37 19
871	Patrick Lynch, " " - - -		43 75
872	Charles H. Pierce, paid by him for sundries, -		122 27
873	do. " " labor on pipes, -		440 50
874	Providence Steam & Gas Pipe Co., " -		107 85
875	Beth A. Mitchell, work on leading main line, -		486 84
876	G. & C. P. Hutchins, gas fixtures, engineering department,		44 25
877	Miller & Sisson, links for curved pipes, -		99 15
878	W. E. Barrett & Co., grass seed for slopes, -		14 30
879	Barker, Whitaker & Co., tools, - - -		9 42
880	John Mason, patterns for iron screw-pile, &c. -		130 80
881	Sidney S. Rider & Bro., stationery engineering department,		4 58
882	Hammond, Angell & Co., paper, printing, &c. -		62 64
883	M. B. Lockwood, salary as water commissioner, -		500 00
884	Chas. E. Carpenter, " " " -		500 00
885	Joseph J. Cooke, " " " -		500 00
886	William Aplin, " clerk for commissioners, -		200 00
Amount carried forward, - - -			\$422,554 29

REPORT OF THE WATER COMMISSIONERS.

17

	Amount brought forward,	-	-	\$422 554 29
887	Marshall Woods, rent of offices,	-	-	483 75
888	Providence Gas Co., gas,	-	-	7 56
889	Robert F. Nicola, care of rooms,	-	-	75 34
890	Patrick Kenan, labor,	-	-	30 19
891	Albert Dailey & Co., lumber,	-	-	146 98
892	George H. Whitney, stationery for engineering department,	-	-	55 33
893	George W. Lobdell, labor on pipes,	-	-	31 50
894	Freeborn Johnson & Co., on account of construction of houses,	-	-	1,000 00
895	William H. Fenner & Co., tools,	-	-	4 10
896	Albert D. Wheeler & Co., horse-hire for engineers, &c.	-	-	132 00
897	Albert Taft, hauling water pipes,	-	-	59 29
898	Caleb Rodman, " " "	-	-	755 97
899	Cleveland & Brothers, desk table, &c, engineering department,	-	-	117 75
900	Dexter Gorton & Co., construction of temporary engine house,	-	-	3,567 23
901	† Schooner Watchful, freight of water pipes,	-	-	130 16
902	J. B. Handy, repairing wagon,	-	-	20 24
				<u>\$429,171 68</u>

RECEIVED DURING THE QUARTER AND PAID TO THE CITY TREASURER.

Of Thomas Hannay, for one quarter's rent of estate purchased of Miss Julia Bullock,	-	-	75 00
Of Burrows Chace, for one quarter's rent of farm in Warwick, purchased of Miss Patience W. Chace,	-	-	43 75
			<u>\$118 75</u>

ABSTRACT OF THE ACCOUNTS OF THE WATER COMMISSIONERS TO JUNE 31, 1871, INCLUSIVE.

Dr.		
Hope Reservoir for land,	-	\$101,154 05
Sockanosset Reservoir for land,	-	16,071 35
" " " inspection,	-	3,858 18
" " " moving buildings,	-	792 08
" " " gate houses,	-	75 00
" " " drain,	-	92 82
Line of leading mains for labor and materials,	-	5,862 56
" " " extra trenching &c.,	-	305 95
" " " land and damages,	-	1,135 00
Force main line for land and damages,	-	2,976 35
" " " labor,	-	4,950 27
" " " extra trenching, &c.,	-	332 56
Office furniture, stoves, gas fixtures, &c.,	-	552 16
Rent of offices,	-	1,137 50
Books, stationery, &c.,	-	259 20
Fuel and lights,	-	123 71
Horse hire by Commissioners,	-	16 00
Janitor of rooms,	-	151 00
Travelling expenses of Commissioners,	-	98 47
Clerk's salary,	-	1,190 32
Commissioners' salaries,	-	10,500 00
Sundries,	-	92 21
Printing,	-	803 44
Advertising,	-	957 69
Fence-posts,	-	286 20
Stop-valves,	-	1,621 50
Store-house and work-shop,	-	734 42
Tools,	-	1,767 98
Labor on pipes,	-	4,257 59
Rent of wharves and pipe-yards,	-	996 09
Cast iron water pipes,	-	557,810 72
Linking curved pipes,	-	89 75
Lumber,	-	1,382 76
Sockanosset hill cross-road,	-	3,712 23
Pettaconset telegraph line,	-	1,131 66
Houses at Pettaconset,	-	3,266 94
Culverts and bridge on line of force mains,	-	6,773 33
Real estate in Warwick,	-	13,083 59
Water privileges, mill and other real estate in Pawtuxet,	-	50,126 96
Pettaconset pumping station, for land,	-	1,250 00
Amount carried forward,	-	\$801,779 59

Amount brought forward,	-	\$801,772 54
Special castings,	-	25,224 90
Pochasset bridge,	-	1,031 71
Wharf salaries,	-	1,418 00
Temporary engine house at Pettaconset,	-	3,820 44
Engine house at Pettaconset,	-	872 86
Natural filter basin,	-	790 83
Roads at Pettaconset,	-	4,733 13
Removing loam,	-	215 70
Iron screw piles,	-	125 00
James MacDonald & Co.,	-	62,300 00
Providence Steam and Gas Pipe Co.,	-	51,771 46
George W. Lobdell,	-	13,300 00
Freeborn Johnson & Co.,	-	3,500 00
Seth A. Mitchell,	-	725 00
City Treasurer,	-	1,441 32
Inspection of pipes,	-	3,753 59
Testing pipe iron,	-	255 50
Iron drain pipes and gate,	-	200 34
Carting pipes,	-	11,750 46
Inspection of pipe laying,	-	2,507 96
Counsel fees,	-	1,000 00
Testing bolts and composition castings,	-	34 25
		<hr/>
		\$992,552 04

ENGINEERING DEPARTMENT—

For Instruments,	-	1,690 86
Tools,	-	393 92
Furniture, stoves, gas-fixtures, &c.,	-	1,657 44
Books, stationery, &c.,	-	995 07
Temporary assistance,	-	3,670 98
Labor,	-	1,896 69
Draughting,	-	1,846 00
Horse and wagon account,	-	815 07
Horse keeping, shoeing, &c.,	-	451 41
Horse hire,	-	811 00
Rent of offices,	-	1,272 64
Fuel and lights,	-	271 59
Janitor of rooms,	-	255 37
Experimental filter,	-	91 08
Sundries,	-	788 78
Salaries,	-	33,878 19
Test-wells,	-	1,579 40
Consultations,	-	320 00
Office building at Pettaconset,	-	542 46
“ “ “ Sockanosset reservoir,	-	563 22
Stakes and strips,	-	193 25
Printing,	-	72 02
Maps,	-	50 00
Service-pipe experiments,	-	134 61
		<hr/>
		54,231 05
		<hr/>
		\$1,046,783 09

CR.	
Hope reservoir, for land, (rent received,) -	\$450 00
Sockanosset " " (wood sold,) -	726 49
Water privileges, &c., at Pawtuxet, (rent received,) -	127 33
Warren Foundry and Machine Co., -	59,446 15
R. D. Wood & Co., -	10,019 92
Caleb Rodman, -	200 00
Builders Iron Foundry, -	2,350 00
Fuller Iron Works, -	200 00
Fales, Jenks & Sons, -	150 00
Pettaconset pumping station, for land, (rent received,) -	93 75
Real estate in Warwick, (rent received,) -	43 75
Approved bills, -	972,975 70

 1,046,783 09

1871-72.]

CITY DOCUMENT.

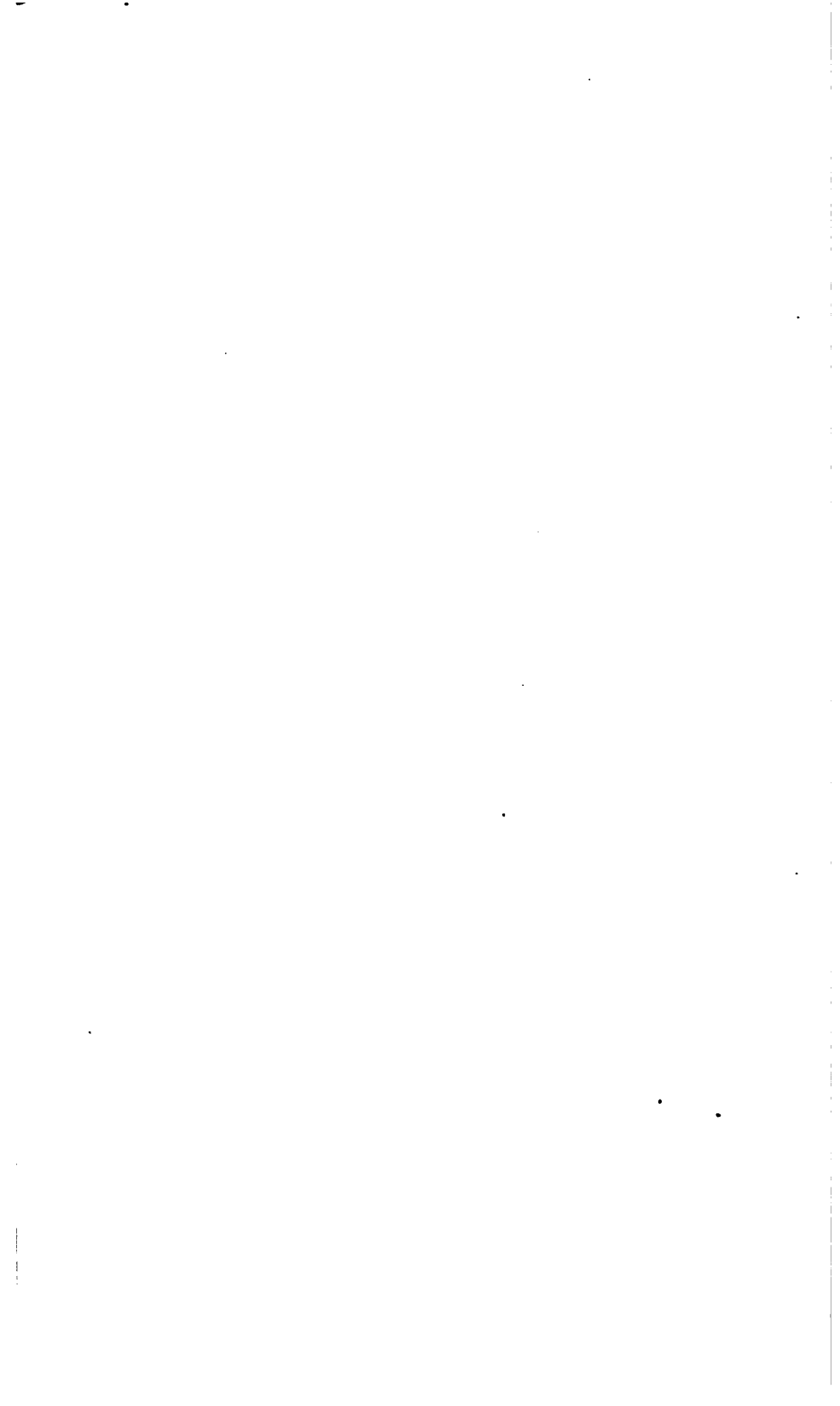
[No. 28.]

EIGHTH QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

OCTOBER 2, 1871.



PROVIDENCE:
RAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1871.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT,
CHARLES E. CARPENTER,
JOSEPH J. COOKE, SECRETARY.

Office No. 10 Woods' Building, corner of South Main and College streets.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 6 Woods' Building, corner of South Main and College streets.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, October 2, 1871. }

TO THE HONORABLE CITY COUNCIL :—

The Water Commissioners respectfully submit their Eighth Quarterly Report:

During the quarter the following contracts have been executed.

With John W. & James J. Newman, of Brooklyn, N. Y., for Trenching and Back-Filling, and laying Water Pipes.

With Benjamin F. Gladding, of Providence, for excavation of natural filter basin at Pettaconset, down to the natural water level, and for dressing roads with gravel.

The following proposals have been accepted :

Thomas Phillips & Co's, for furnishing Colwell, Shaw & Willard Mfg. Co's Improved Tin Lined Lead Pipe, for service pipes on North Main street :

Ditto's, for laying service pipes during the present and the next year.

Hope Iron Works', for furnishing 40 valve boxes.

Jacob S. Utter, has resigned his position as Inspector of Masonry.

Burrows Chace has been appointed to the same office, with a compensation of four dollars per day.

The salary of Samuel M. Gray, assistant engineer, has been increased to three thousand dollars per annum; the increase dating from the first day of July last.

Henry N. Francis, Louis R. Daniels, and Herbert M. Lillibridge, have been appointed students.

Lot No. 165 on the Halsey Plat, No. 2, with the dwelling-house thereon, has been purchased of Mrs. Mary Walsh, for the sum of forty-five hundred dollars. This lot had been previously taken by authority of law.

A tract of land situate on the westerly side of the Thayer street extension, containing 70,931 square feet, has been purchased of the Yearly Meeting of Friends for New England, at twenty-five cents per square foot.

The City Solicitor and the Commissioners, having approved of a lease to Stafford & Co., of the Pawtuxet Mill and some adjoining property, for five years from the first day of January, 1873, at the annual rent of eight hundred dollars, payable semi-annually, it was signed by the City Treasurer, in accordance with a resolution of the City Council, instructing him so to do. The lease provides that the city shall not be called upon for any repairs, (of which there was much need,) and that no claim shall be made for water pumped from the river by the city.

Edward D. Pearce, Rodney F. Dyer and Robert Wilson, were appointed by the Supreme Court, early in July last, appraisers in the matter of the "Aldridge Farm," at Pettaconset, taken for water purposes.

Believing that the best interests of the city would be promoted by a liberal policy, the Commissioners, on the 29th of July last, resolved to lay service pipes to the curbing of the side-walks, without cost to water-takers, and advertised accordingly. Service pipes have already been laid for estates on that part of North Main street which is below Smith street, so that the wooden pavement, now being laid, will not be disturbed for this purpose.

On the 28th of July last, the Commissioners, by invitation, visited the works, in company with His Honor, the Mayor, the Honorable Board of Aldermen, the President of the Common Council, and other city officials.

The schooner General John Cropper, with about sixty-five tons water pipes, shipped by the Warren Foundry & Machine Co., sunk in Long Island Sound on the 7th of July last. On the receipt of pipes cast to replace these, the contracts with that Company will be completed. All of the pipe contracts require the delivery of the pipes in this city.

On the 2d ultimo, the Commissioners, by letter, informed His Honor the Mayor, acting as Chairman of the Committee on City Debt, that they estimated that the sum of two million dollars (\$2,000,000) would cover all the expenditures of the water works during their term of office, which expires the 27th of September, 1872. This estimate had previously been informally given, and is what their judgment now dictates.

A large amount of work remains to be done on Sockanosset reservoir. An unusually favorable season only, will allow of its completion this year. The city, however, is happily not dependent upon its completion, for the introduction of water. The brick conduit, already constructed in the eastern embankment, will convey the water from the inlet-chamber to the outlet-chamber without entering the interior of the reservoir. Work in the gate chambers, not included in the contract for the construction of the reservoir, is now going on, and it is expected that they will be ready for use before the year expires. It is probable that the bottom of the reservoir will be prepared, and such a portion of the slope-wall finished, as will allow of the partial use of the interior before the reservoir is completed as a whole.

The Worthington Duplex Engine is being set up in the temporary engine-house, on the bank of the river at Petta-

conset, and, without reasonable doubt, will be ready in a short time for trial.

The boiler-house has been extended sufficiently to allow of the introduction into it by Messrs. Fales, Jenks & Sons, of two Miller boilers, the operation of which they wish to have compared, side by side, with the tubular boilers furnished by Mr. Worthington. All attendant expenses, excepting for the extension of the building, will be borne by them.

The contract with Seth A. Mitchell, for the construction of a portion of the new road between the New London Turnpike, so called, and the reservoir, has been completed.

The contract with George W. Lobdell, for grading, between the rail-road bridge on Greenwich street and the Pochasset river, is approaching completion.

A very little work remains to be done by the Providence Steam & Gas Pipe Co., before their contract for trenching and back-filling and laying water pipes will be completed.

Fences have been built by S. B. & C. H. Pearce as follows :

On each side of the road at Pettaconset, land for which was purchased of William Eddy ;

On the easterly side of Sockanosset Hill Cross-Road, from the New London Turnpike, so called, to the point where the new cross-road enters the old one ; and

On each side of the new road, from the cross-road near the outlet chamber of the reservoir to the bridge over the Pochasset river.

All of these fences were stipulated for in deeds of lands to the city, which deeds, however, expressly provide that the city shall be exempt from their maintenance.

The Fire-Hydrants are being manufactured by Fales, Jenks & Sons, less rapidly than the Commissioners could wish, though an improvement in this respect is now apparent.

It is the intention of the Commissioners to respectfully request the Honorable Board of Aldermen, when the extension

of Thayer street shall be ready for public use, to declare that part of Hope street lying westerly thereof, useless as a public highway; in order that the land purchased of the Yearly Meeting of Friends may be connected with the other lands purchased for Hope reservoir.

The Commissioners expect soon to advertise for the comparatively small number of cast iron water pipes which will be needed for laying in 1872, in addition to those now on hand and those still under contract.

It is expected that, during the winter, plans for the construction of Hope Reservoir will be made, and that proposals for doing the work will be advertised for in the spring.

A good deal of complaint has been made by citizens in regard to the delay in clearing the streets and sidewalks of surplus earth, etc., after laying pipes under the first contract; particularly soon after the commencement of the work. The contractor having sub-let the trenching and back-filling at a disproportionately low price, much friction was the result. Although the Commissioners did, in some instances, cause work to be done by others at the expense of the contractor, as authorized by the contract, they were naturally more forbearing than they would have been under other circumstances. The new contract, although made at a lower price than the old one, is made with parties who sub-let no part of the work, which has thus far been done, on the whole, in a very satisfactory manner. It is the intention of the Commissioners and Chief Engineer, to hold them in all cases to such strict conformity to the specifications of the contract, that the public shall be inconvenienced no farther than is absolutely necessary for the prosecution of the work.

The line of leading mains is now continuous from the reservoir to the Exchange Place bridge near Steeple street, and from that bridge to Olney street. The iron screw piles on

which the pipes which are to be laid across the river will rest, are all ready, and are now being set.

But little remains to be done to complete the line of force mains, from the engine house to the reservoir.

The following statement shows the length of pipe laid during the last quarter; the sizes of the pipes, and the totals from the commencement of the work:

30 INCH.

In Greenwich, Winter, High, Dean, Washington Eddy and Dyer streets	4,788 feet.
Including 28 cut pipes, 10 curved pipes, 23 branches, 6 sleeves, 9 man-holes, 5 blow-offs, and 12 gates.	
Previously,	24,935 "
Total,	<hr/> 29,723 feet.

24 INCH.

In High, Washington, Dyer, North Main, South Main and College streets and Market Square,	6,069 feet.
Including 18 cut pipes, 11 curved pipes, 38 branches, 1 reducer, 2 sleeves, 6 man-holes 2 blow-offs and 10 gates.	
Previously,	7,503 "
Total,	<hr/> 18,572 feet.

20 INCH.

In Dean and Lockwood streets,	4,072 feet.
Including 8 cut pipes, 4 curved pipes, 26 branches, 2 sleeves and 3 gates.	
Previously,	499 "
Total,	<hr/> 4,571 feet

16 INCH.

In South Main street, -	-	-	2,593 feet.
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Including 13 cut pipes, 37 branches, 1 sleeve and 2 gates.

12 INCH.

In Wilson, Harrison and Washington streets, and Atwell's avenue, -	-	-	4,082 feet.
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Including 21 cut pipes, 2 curved pipes, 4 bevel hubs, 34 branches, 4 sleeves and 5 gates.

10 INCH.

In Broad, Plane and Beacon streets, -	-	-	3,938 feet.
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Including 21 cut pipes, 9 curved pipes, 1 bevel hub, 25 branches, 2 sleeves and 5 gates.

8 INCH.

In Greenwich, High, Broad, Westminster and Weybosset streets, -	-	-	5,950 feet.
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Including 64 cut pipes, 19 curved pipes, 9 bevel hubs, 56 branches, 1 sleeve, and 25 gates.

Previously, -	-	-	5,330 "
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Total, -	-	-	11,280 feet.
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6 INCH.

In Greenwich, Earl, High, Dean, Washington, Broad, Pine, Friendship, Clifford, Ship, Elbow, Bassett, South, Claverick, Chestnut, Richmond, Hoppin, Butler, Hospital, Parson- age, North Main, Benefit, and College streets and Market Square, -	-	-	89,940 feet.
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Including 265 cut pipes, 30 curved pipes, 22
bevel hubs, 154 branches and 118 gates.

Previously, - - - 6,663 feet.

Total, - - - 46,603 feet.

Length of pipe of all sizes laid during the last
quarter, - - - 71,432 feet

or $13\frac{2792}{1000}$ miles.

Previously, - - - 49,904 "

or $9\frac{2884}{1000}$ miles.

Total, - - - 121,336 feet.

or $22\frac{5176}{1000}$ miles.

The amount of expenditures during the last
quarter, is - - - \$300,959 57

The total amount of expenditures is - 1,273,935 27

" " " " appropriations is - 1,400,000 00

The unexpended balance is, - 126,064 73

The amount received during the last quarter
and paid to the City Treasurer, is - 1,043 00

The total amount of receipts is - 2,484 32

An additional appropriation will probably be asked for
before the close of the present quarter.

A schedule of bills approved during the last quarter and
of receipts during the same time, and a trial balance of Led-
ger, September 30, 1871, are hereunto appended and made
parts of this report.

M. B. LOCKWOOD,	}	<i>Water Commissioners.</i>
CHAS. E. CARPENTER,		
JOSEPH J. COOKE.		

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM JULY 1, 1871, TO SEPTEMBER 30, 1871, INCLUSIVE.

*Charged to R. D. Wood & Co.

†Charged to Warren Foundry and Machine Company.

903	†Schooner A. T. Miner, freight of water pipes,	-	\$74 24
904	†Schooner Susan and Mary, freight of water pipes,	-	49 55
905	Tuttle & Hobbs, horse keeping, &c.,	-	114 25
906	†Schooner Raynor, freight of water pipes,	-	52 02
907	†Schooner Pointer, " " " "	-	106 38
908	Horace B. Bowen, pipe bolts,	-	516 91
909	James MacDonald & Co., on account of construction of Sockanoeset Reservoir,	-	3,300 00
910	Providence Steam and Gas Pipe Co., trenching and back filling, and laying water pipes,	-	13,012 15
911	Boynton Bros. & Elsbree, work on roads at Pettaconset, &c.,	-	201 13
912	" " " " " "	-	525 00
913	George W. Lobdell, grading, &c.,	-	1,075 00
914	Seth A. Mitchell, making road,	-	875 00
915	*Schooner Manantico, on account of freight of water pipes,	-	250 00
916	†Sloop Fred. Brown, " " " "	-	91 18
917	Warren Foundry and Machine Co., on account of water pipes,	-	15,614 66
918	Fales, Jenks & Son, water gates,	-	2,188 00
919	Builder's Iron Foundry, special castings,	-	3,531 73
920	R. D. Wood & Co., on account of water pipes,	-	20,643 47
921	†Schooner Lewis Jane, freight of water pipes,	-	35 69
922	*Schooner Muskée, on account of freight of water pipes,	-	250 00
923	†Sloop Report, " " " "	-	43 61
924	Mary Walsh, land for Hope Reservoir,	-	4,540 00
925	*Schooner Manantico, on account of freight of water pipes,	-	350 00
926	Charles D. Ward, salary as principal assistant engineer,	-	250 00
927	Lebbens B. Ward, " assistant engineer,	-	250 00
928	Samuel M. Gray, " " " "	-	208 33
929	Charles H. Pierce, " " " "	-	166 67
930	Charles H. Swan, " " " "	-	150 00
931	William T. Schneider, " " " "	-	100 00
932	Laurence Bradford, " " " "	-	125 00
933	George B. Wheeler, " " " &c.,	-	166 66
934	John George Cooper, " " " "	-	125 00
935	Howard A. Carson, " " " "	-	125 00
Amount carried forward,			\$71,068 63

	Amount brought forward,	-	-	\$71,068 63
936	John E. Bowen, salary as student, engineering dep't.	-	-	41 67
937	George H. Slade, " " " "	-	-	33 33
938	George F. Munro, " " " "	-	-	25 00
939	Leprilete Sweet, 2d, salary as student, engineering dep't.	-	-	25 00
940	Edmond B. Weston, " " " "	-	-	25 00
941	Mark Wilmarth, " " " "	-	-	25 00
942	Henry N. Francis " " on trial, " "	-	-	25 00
943	Gilbert Kenyon, " " " "	-	-	25 00
944	Louis R. Daniels, " " " "	-	-	25 00
945	Herbert M. Lillibridge, " " " "	-	-	25 00
946	Augustus F. Nagle, " draughtsman, " "	-	-	133 00
947	Charles R. Nuebell, " temporary ass't. " "	-	-	60 00
948	Nathaniel F. Davis, " " " "	-	-	75 00
949	J. Rayner Edmands, " " " "	-	-	66 00
950	Daniel D. Waterman, " " " "	-	-	41 40
951	Andrew B. Eddy, " " " "	-	-	33 15
952	Walter F. Slade, " " " "	-	-	26 80
953	Asa Sisson, " pipe inspector, -	-	-	125 00
954	J. G. Hayward, " assistant pipe inspector, -	-	-	63 00
955	Jacob S. Utter, " inspector of masonry, -	-	-	100 00
956	Andrew R. Reed, " " " "	-	-	145 00
957	Jesse E. Gray, " " at reservoir, -	-	-	100 00
958	George H. DeForest, " " " "	-	-	46 50
959	Henry H. Brown, " superintendent of pipe yards, -	-	-	125 00
960	Reginald C. Brown, " clerk at pipe wharf, -	-	-	52 00
961	Andrew B. Purdy, " superintendent of pipe laying, -	-	-	166 67
962	Squire Livsey, " inspector of " -	-	-	104 00
963	Elbert Purdy, " " " "	-	-	83 33
964	Foster M. Rhodes, " " " "	-	-	83 33
965	Samuel R. Eccleston, " " " "	-	-	83 33
966	Henry G. Dennis, " " " "	-	-	83 33
967	Patrick Lynch, axman, -	-	-	37 50
968	Thomas A. McDonald, axman, -	-	-	52 13
969	Robert F. Nicola, care of rooms, -	-	-	24 60
970	Charles H. Pierce, paid laborers at pipe wharves, -	-	-	393 12
971	" " " for sundries, -	-	-	117 40
972	Akerman & Co., mounting maps, engineering department, -	-	-	21 67
973	Freeborn Potter, labor at temporary engine-house, -	-	-	82 63
974	Thomas Phillips & Co., work on houses at Pettaconsett, -	-	-	54 00
975	B. J. Blanchard, bound stones, -	-	-	22 70
976	Albert Taft, hauling water pipes, -	-	-	364 51
977	Caleb Rodman, " " " "	-	-	750 62
978	Miller & Sisson, links for curved pipe, -	-	-	91 60
979	Manchester Bro's, photographs of plans, &c., -	-	-	114 00
980	†Sloop Fred. Brown, freight of water pipe, -	-	-	101 84
981	Warren Foundry and Machine Co., on account of water pipes, -	-	-	65,000 00
982	T. J. Hill, rent of wharf, -	-	-	250 00
983	James McDonald & Co., on account of construction of Sock-anosset reservoir, -	-	-	7,450 00
	Amount carried forward, -	-	-	\$148,074 79

	Amount brought forward,	-	-	-	\$148,074 79
984	George W. Lobdell, grading,	-	-	-	980 00
985	Seth A. Mitchell, making road,	-	-	-	2,360 36
986	Providence Steam and Gas Pipe Co., trenching and back fill- and laying water pipes,	-	-	-	13,550 00
987	Warren Foundry and Machine Co., on account of water pipes,	-	-	-	97 64
988	R. D. Wood & Co., on account of water pipes,	-	-	-	27,881 94
989	J. G. Hayward, salary as assistant pipe inspector,	-	-	-	42 00
990	Hope Iron Works, sluice ways	-	-	-	141 04
991	Laurence Bradford, paid laborers,	-	-	-	188 06
992	Fales, Jenks & Sons, water gates,	-	-	-	2,792 87
993	" " taps and stops,	-	-	-	193 30
994	Cranston Furnace Co., valve covers,	-	-	-	96 30
995	Fuller Iron Works, special castings,	-	-	-	2,454 74
996	" " " " " "	-	-	-	1,234 73
997	Thomas Phillips & Co., laying service pipes,	-	-	-	1,232 30
998	Builder's Iron Foundry, special castings,	-	-	-	4,097 11
999	†Sloop Oregon, freight of water pipes,	-	-	-	90 32
1000	Jacob S. Utter, salary as inspector of masonry,	-	-	-	50 00
1001	Narragansett Fire and Marine Insurance Co., insurance on Pawtuxet Mill,	-	-	-	105 00
1002	Builders Iron Foundry, special castings,	-	-	-	1,000 38
1003	" " " work at Pochasset bridge,	-	-	-	232 75
1004	James McDonald & Co., labor for engineers, &c.,	-	-	-	363 02
1005	*Schooner Manantico, on account of freight of water pipes,	-	-	-	250 00
1006	Charles D. Ward, salary as principal assistant engineer,	-	-	-	250 00
1007	Lebbeus B. Ward, " assistant engineer,	-	-	-	125 00
1008	Samuel M. Gray, " " " " " "	-	-	-	291 67
1009	Charles H. Pierce, " " " " " "	-	-	-	166 67
1010	Charles H. Swan, " " " " " "	-	-	-	150 00
1011	William T. Schneider, " " " " " "	-	-	-	100 00
1012	Laurence Bradford, salary as assistant engineer,	-	-	-	125 00
1013	George B. Wheeler, " " " " " "	-	-	-	166 66
1014	John George Cooper, " " " " " "	-	-	-	125 00
1015	Howard A. Carson, " " " " " "	-	-	-	125 00
1016	John E. Bowen, " " student, engineering dep't.	-	-	-	41 67
1017	George H. Slade, " " " " " "	-	-	-	33 33
1018	George F. Munro, " " " " " "	-	-	-	25 00
1019	Lepriete Sweet, 2d, " " " " " "	-	-	-	25 00
1020	Edmond B. Weston, " " " " " "	-	-	-	25 00
1021	Mark Wilmarth, " " " " " "	-	-	-	25 00
1022	Henry N. Francis, " " " " " "	-	-	-	25 00
1023	Gilbert Kenyon, " " " on trial " " "	-	-	-	25 00
1024	Louis R. Daniels, " " " " " "	-	-	-	50 00
1025	Herbert M. Lillibridge, " " " " " "	-	-	-	25 00
1026	Augustus F. Nagle, " " draughtsman, " " "	-	-	-	84 00
1027	Nathaniel F. Davis, " " temp. asst'nt, " " "	-	-	-	24 00
1028	J. Raynor Edmands, " " " " " "	-	-	-	54 00
1029	Daniel D. Waterman, " " " " " "	-	-	-	49 80
	Amount carried forward,	-	-	-	\$209,124 45

Amount brought forward,			\$209,124 45
1030	Andrew B. Eddy, salary as temp. asst't, engineering dept.,	52 20	
1031	Walter F. Slade, " " " " "	40 60	
1032	Asa Sisson, " " pipe inspector, -	125 00	
1033	Andrew R. Reed, " " inspector of masonry, -	130 00	
1034	Jesse E. Gray, " " " at reservoir, -	100 00	
1035	George H. De Forest, " " " " "	50 50	
1036	Henry H. Brown, " " superintendent of pipe yard.	125 00	
1037	Reginald C. Brown, " " clerk at pipe wharf, -	30 00	
1038	Andrew B. Purdy, " " superintendent of pipe laying,	166 67	
1039	Squire Livsey, " " inspector of pipe laying, -	92 00	
1040	Elbert Purdy, " " " " " "	83 33	
1041	Foster M. Rhodes, " " " " " "	83 33	
1042	Samuel R. Eccleston, " " " " " "	83 33	
1043	Henry G. Dennis, " " " " " "	83 33	
1044	Patrick Lynch, axman, -	42 50	
1045	Thomas A. McDonald, " -	46 00	
1046	William F. Tanner, " -	31 21	
1047	Robert F. Nicola, care of rooms, -	25 02	
1048	Charles H. Pierce, paid laborers at wharves, -	354 05	
1049	" " " " for sundries, -	70 74	
1050	W. T. Schneider, " " labor at Pettaconset, &c., -	186 50	
1051	M. D. Copeland, hauling pipes, -	63 00	
1052	Albert Taft, " " -	5 82	
1053	Caleb Rodman, " " -	632 21	
1054	Freeborn Potter, " stone, -	30 00	
1055	W. E. Barrett & Co., bent seed, &c., -	10 20	
1056	James Crawford, signs, -	9 00	
1057	Warren Foundry and Machine Co., on account of water pipes, -	2,193 20	
1058	Henry R. Worthington, on account of pumping engine at Pettaconset, -	12,000 00	
1859	George W. Hall, &c., drain tiles, -	49 34	
1060	Seth A. Mitchell, grading, &c., -	143 00	
1061	Boynton Bro's. & Elsbree, work on roads at Pettaconset,	344 52	
1062	James MacDonald & Co., on account of construction of Sockanosset reservoir, -	9,550 00	
1063	George W. Lobdell, grading, -	1,150 00	
1064	John W., and James J. Newman, trenching and back-filling and laying water pipes. -	8,000 00	
1065	Providence Steam and Gas Pipe Co., trenching and back-filling and laying water pipes, -	6,300 00	
1066	James MacDonald and Co., work on gate chambers at Sockanosset reservoir, &c., -	1,224 28	
1067	Builders Iron Foundry, testing pipe, &c., -	256 23	
1068	Fales, Jenks & Sons, water gates, -	6,133 00	
1069	Fuller Iron Works, special castings, -	893 37	
1070	Cranston Furnace Co., valve covers, -	359 03	
1071	Union Railroad Co., paving, -	128 70	
Amount carried forward,			\$260,600 66

REPORT OF THE WATER COMMISSIONERS.

17

	Amount brought forward,	-	-	-	\$260,600 06
1072	F. W. Lincoln, Jr., & Co., tracing cloth,	-	-	-	24 00
1073	Laurence Bradford, paid laboreers on road,	-	-	-	244 68
1074	Dillon J. Luther, work at temporary engine house,	-	-	-	766 20
1075	R. D. Wood & Co., on account of water pipes,	-	-	-	8,652 48
1076	Yearly Meeting of Friends for New England, land for Hope reservoir.	-	-	-	17,732 75
1077	Alfred Mundell, building valve boxes,	-	-	-	129 28
1078	S. B. & C. H. Pearce, building fences, &c.,	-	-	-	1,769 65
1079	*Schooner Sallie C. Morton, freight of water pipes,	-	-	-	137 68
1080	J. Herbert Shedd, salary as chief engineer,	-	-	-	1,500 00
1081	Charles D. Ward, " principal assistant engineer,	-	-	-	250 00
1082	Lebbens B. Ward, " assistant engineer,	-	-	-	250 00
1083	Samuel M. Gray, " " " " " "	-	-	-	250 00
1084	Charles H. Pierce, " " " " " "	-	-	-	166 67
1085	Charles H. Swan, " " " " " "	-	-	-	150 00
1086	William T. Schneider, " " " " " "	-	-	-	100 00
1087	Laurence Bradford, " " " " " "	-	-	-	125 00
1088	George B. Wheeler, " " &c., " " " "	-	-	-	166 06
1089	John Geo. Cooper, " " " " " "	-	-	-	125 00
1090	Howard A. Carson, " " " " " "	-	-	-	125 00
1091	John E. Bowen, " student, engineering department,	-	-	-	41 67
1092	George H. Slade, " " " " " "	-	-	-	33 33
1093	George F. Munro, " " " " " "	-	-	-	25 00
1094	Lepilete Sweet, 2d, " " " " " "	-	-	-	25 00
1095	Edmond B. Weston, " " " " " "	-	-	-	25 00
1096	Mark Wilmarth, " " " " " "	-	-	-	25 00
1097	Henry N. Francis, " " " " " "	-	-	-	25 00
1098	Gilbert Kenyon, " " on trial, " " " "	-	-	-	25 00
1099	Louis R. Daniels, " " " " " "	-	-	-	25 00
1100	Herbert M. Lillibridge, " " " " " "	-	-	-	25 00
1101	Augustus F. Nagle, " draughtsman, " " " "	-	-	-	156 00
1102	J. Rayner Edmands, salary as temp. ass't in en'g department,	-	-	-	72 00
1103	Daniel D. Waterman, " " " " " "	-	-	-	29 40
1104	Andrew B. Eddy, " " " " " "	-	-	-	51 60
1105	Walter F. Slade, " " " " " "	-	-	-	49 20
1106	Asa Sisson, " pipe inspector, " " " "	-	-	-	125 00
1107	Andrew E. Reed, " inspector of masonry, " " " "	-	-	-	140 00
1108	Jesse E. Gray, " " on reservoir, " " " "	-	-	-	100 00
1109	Burrows Chase, " " of masonry, " " " "	-	-	-	96 00
1110	George H. DeForest, " " on reservoir, " " " "	-	-	-	71 00
1111	Henry H. Brown, " superintendent of pipe yards, " " " "	-	-	-	125 00
1112	Reginald C. Brown, " clerk at pipe yards, " " " "	-	-	-	28 00
1113	Andrew B. Purdy, " superintendent of pipe laying, " " " "	-	-	-	166 67
1114	Squire Livsey, " inspector of " " " "	-	-	-	100 00
1115	Elbert Purdy, " " " " " "	-	-	-	83 33
1116	Foster M. Rhodes, " " " " " "	-	-	-	83 33
1117	Samuel E. Eccleston, " " " " " "	-	-	-	100 00
1118	Henry G. Dennis, " " " " " "	-	-	-	100 00
	Amount carried forward,	-	-	-	\$285,217 22

	Amount brought forward,	-	-	-	\$295,217 22
1119	John C. Harris, Jr., salary as inspector of pipe laying,	-	-	-	44 44
1120	Patrick Lynch, " " axman,	-	-	-	22 00
1121	Thomas A. McDonald, " " "	-	-	-	46 00
1122	William F. Tanner, salary as axman,	-	-	-	36 00
1123	Robert F. Nicola, " janitor of rooms,	-	-	-	31 50
1124	Daniel C Stone, " temp. ass't. en'g, department,	-	-	-	11 25
1125	Charles H. Pierce, paid by him for sundries,	-	-	-	164 73
1126	do., " " labor on pipes,	-	-	-	305 00
1127	William T. Schneider, " " labor at Pettaconsett,	-	-	-	150 40
1128	Daniel F. Burlingame, repairing tools, &c.,	-	-	-	21 54
1129	William Ellsbree, Jr., labor on line of leading mains,	-	-	-	774 00
1130	Slade & Perrin, worked lumber,	-	-	-	40 00
1131	W. E. Barrett & Co., grass seed,	-	-	-	7 50
1132	Barker, Whitaker & Co., platform scales, &c.,	-	-	-	66 83
1133	S. B. & C. H. Pearce, painting fence,	-	-	-	28 17
1134	Hammond, Angell & Co., paper and printing,	-	-	-	94 50
1135	Akerman & Co., blank books, &c., engineering department,	-	-	-	46 52
1136	George H. Whitney, stationery for " "	-	-	-	37 43
1137	Marshall Woods, rent of offices,	-	-	-	525 00
1138	Providence Gas Co., rent of wharf,	-	-	-	175 00
1139	Manchester, Hopkins & Co., coal and wood,	-	-	-	20 00
1140	Providence Gas Co., gas,	-	-	-	6 72
1141	M. D. Copeland, teaming,	-	-	-	91 00
1142	Knowles, Anthony & Danielson, advertising,	-	-	-	12 43
1143	William Aplin, salary as commissioners' clerk,	-	-	-	200 00
1144	M. B. Lockwood, salary as water commissioner,	-	-	-	500 00
1145	Charles E. Carpenter, " " "	-	-	-	500 00
1146	Joseph J. Cooke, " " "	-	-	-	500 00
1147	B. F. Gladding, labor at Pettaconsett,	-	-	-	56 00
1148	Caleb Rodman, hauling water pipes,	-	-	-	910 12
1149	Cleveland & Brothers, stakes, furniture, &c.,	-	-	-	73 17
1150	Albert D. Wheeler & Co., horse hire, eng'ng dep't,	-	-	-	132 00
1151	Tuttle & Hobbs, horse-keeping, &c.,	-	-	-	79 35
1152	Providence Press Co., advertising,	-	-	-	16 04
1153	Noah D. Payne, advertising,	-	-	-	17 72

 \$300,939 57

RECEIVED DURING THE QUARTER AND PAID TO THE
CITY TREASURER.

1871.		
July 3.	Of F. H. Stafford & Co., for six months rent of Pawtuxet Mill, to 1st instant, - - -	\$500 00
" 5.	Of Schooner Louisa, for wharfage, - - -	15 00
" 10.	Of James MacDonald & Co., for rent of the Stephen B. Gardiner farm, in Cranston, to March 1, 1871, -	300 00
" 18.	Of Peleg P. Cranston, for rent of Randall estate in Pawtuxet, for three months, to 1st. instant, - -	33 00
Aug. 5.	Of James Sculley, for pasturage of a portion of Hope reservoir lands, for 1871, - - -	75 00
" 17.	Of John Byrne, for rent of Lot No. 180, on the Halsey Plat, No. 2, for 1870 and 1871, - - -	10 00
" 17.	Of Samuel M. Gray, for grass on land purchased of Richard Hill, on Sockanosset Hill, sold by him, -	2 00
Sept. 1.	Of Thomas Hannay, for rent of estate purchased of Miss Julia Bullock, for three months to date, - -	75 00
" 11.	Of Peleg P. Cranston, for rent of Randall estate in Pawtuxet, for three months, to 1st October, proximo, -	33 00
		<hr/>
		\$1,043 00

TRIAL BALANCE OF LEDGER, SEPTEMBER 30, 1871.

DR.

Hope Reservoir, for land, - -	\$123,386 80
Sockanosset Reservoir, for land, - -	16,071 35
“ “ for moving buildings, -	802 58
“ “ for gate-houses, -	75 00
“ “ for drain, -	110 50
“ “ for inspection, -	4,987 18
“ “ for extra work and materials, -	518 47
“ “ for gate chambers, -	993 47
Line of leading mains, for labor and materials, -	11,384 83
“ “ “ for extra trenching &c, -	305 95
“ “ “ for land and damages, -	1,135 00
Force main line for land and damages, -	2,976 35
“ “ “ for labor and material -	4,960 27
“ “ “ for extra trenching, &c., -	332 56
Office furniture, stoves, gas fixtures, &c., -	570 49
Rent of offices, - - -	1,300 00
Books, stationery, &c., - - -	259 20
Fuel and lights, - - -	128 99
Horse-hire by commissioners, - - -	16 00
Janitor of rooms, - - -	177 00
Traveling expenses of commissioners, - - -	98 47
Clerk's salary - - -	1,390 32
Commissioners' salaries, - - -	12,000 00
Sundries, - - -	92 21
Printing, - - -	894 08
Advertising, - - -	1,003 88
Fences, - - -	2,045 02
Stop-valves, - - -	13,961 50
Store house and work shop, - - -	734 42
Tools, - - -	1,847 50
Labor on pipes, - - -	5,314 33
Rent of wharves and pipe yards, - - -	1,421 09
Special castings, - - -	36,849 31
Linking curved pipes, - - -	181 35
Lumber, - - -	1,382 76
Sockanosset Hill Cross Road, - - -	3,712 23
Pettaconset Telegraph Line, - - -	1,133 16
Houses at Pettaconsett, - - -	3,320 94
Culverts and Bridge on Line of force-main, - - -	6,773 33
Real Estate in Warwick, - - -	13,102 21
Amount carried forward, - - -	<u>\$277,750 10</u>

Amount brought forward, -	-	\$277,750 10	
Water privileges, mill and other real estate in in Pawtuxet, -	-	50,231 96	
Pettaconset pumping station for, land, -	-	1,264 08	
Pochasset Bridge, -	-	1,264 46	
Wharf Salaries, -	-	1,903 00	
Temporary Engine House, at Pettaconset, -	-	4,742 27	
Engine House, at Pettaconset, -	-	872 86	
Natural Filter Basin, -	-	790 83	
Roads at Pettaconset, -	-	6,150 26	
Removing Loam, -	-	236 75	
Iron Screw Piles, -	-	126 00	
Pipe Bolts, -	-	516 91	
Photographs, -	-	114 00	
Taps and Stops, -	-	213 30	
Valve Boxes, -	-	129 28	
Valve Covers, -	-	495 33	
Service Pipe, -	-	892 70	
Check Valves, -	-	6 18	
James MacDonald & Co., -	-	84,600 00	
Providence Steam and Gas Pipe Co., -	-	84,539 16	
George W. Lobdell, -	-	16,475 00	
Freeborn Johnson & Co., -	-	3,500 00	
Henry B. Worthington, -	-	12,029 37	
John W. and James J. Newman, -	-	8,000 00	
City Treasurer, -	-	2,484 32	
Inspection of Pipes, -	-	4,302 63	
Testing Pipe Iron, -	-	258 50	
Iron Drain Pipes and Gates, -	-	224 21	
Carting Pipes, -	-	15,161 48	
Inspection of Pipe Laying, -	-	4,385 54	
Counsel Fees, -	-	1,000 00	
Testing Bolts and Composition Castings, -	-	34 25	
Laying Service Pipes, -	-	329 60	
" Water Pipes, -	-	9 00	
Cast Iron Water Pipes, -	-	664,546 14	
			\$1,249,578 47

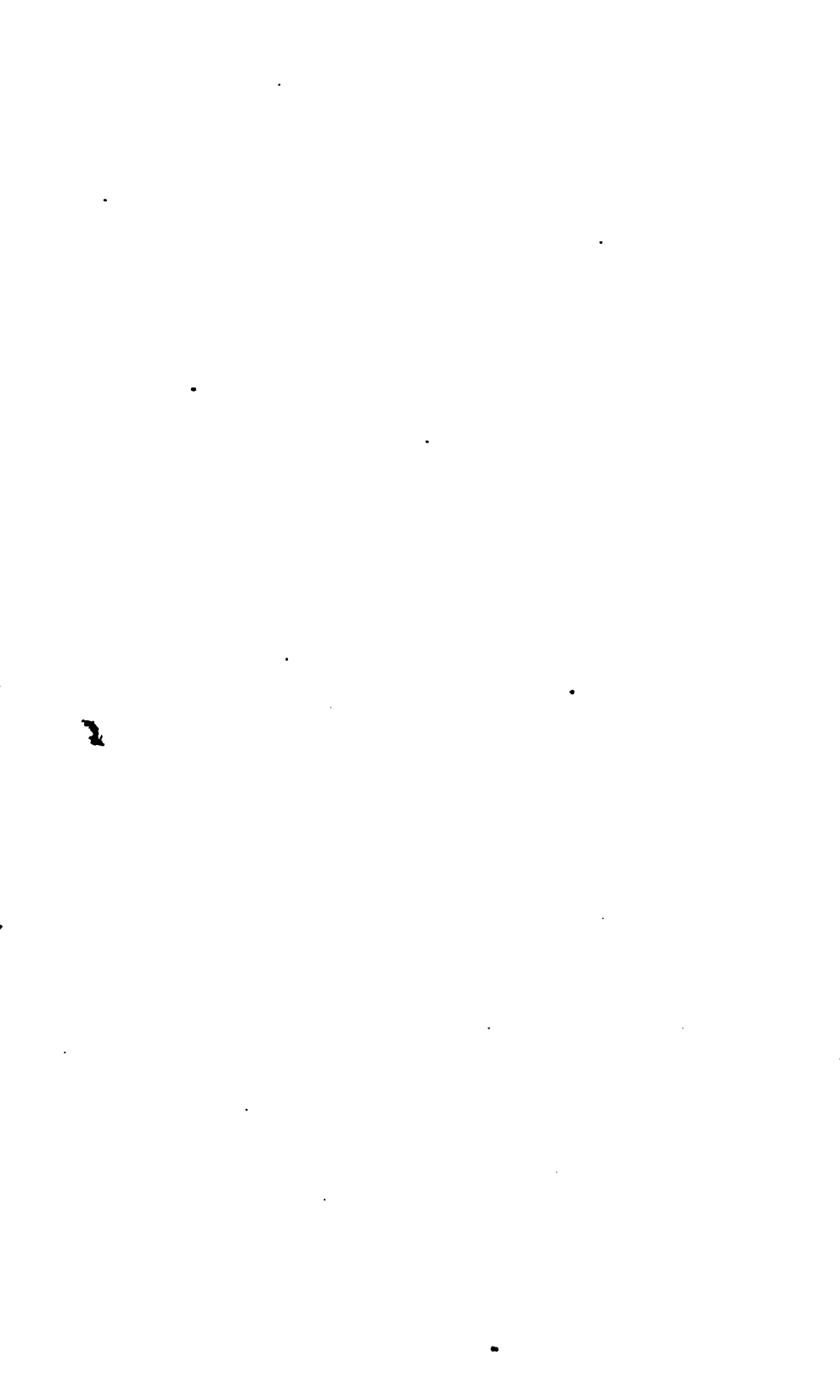
ENGINEERING DEPARTMENT—

Kor Instruments, -	-	1,720 19	
Tools, -	-	425 21	
Furniture, stoves, gas fixtures, &c., -	-	1,677 87	
Books, stationery, &c., -	-	1,116 44	
Temporary assistance, -	-	4,492 70	
Labor, -	-	2,243 16	
Draughting, -	-	2,224 00	
Horse and wagon account, -	-	829 57	
Horse-keeping, shoeing, &c., -	-	610 26	
Amounts carried forward, -	-	\$15,330 40	\$1,249,578 47

Amounts brought forward,	-	\$15,339 40	\$1,249,578 47
For Horse-hire,	-	998 00	
Rent of offices,	-	1,635 14	
Fuel and lights,	-	294 63	
Janitor of rooms,	-	310 49	
Experimental filter,	-	91 08	
Sundries,	-	872 12	
Test wells,	-	1,579 40	
Consultations,	-	320 00	
Office building at Pettaconset,	-	553 21	
“ “ at Sockanosset Reservoir,	-	571 41	
Stakes and strips,	-	272 91	
Printing,	-	75 88	
Maps,	-	71 67	
Service-pipe experiments,	-	142 36	
Salaries,	-	41,144 86	64,272 56
			<hr/>
			\$1,313,851 03

CR.

Hope reservoir, for land, (rents received,)	-	\$610 00	
Sockanosset reservoir, for land, (rent received, wood sold, &c.,)	-	1,028 49	
Real estate in Warwick, (rent received,)	-	43 75	
Water privileges, &c., in Pawtuxet, (rent received,)	-	693 33	
Pettaconsett Pumping Station, for land, (rent received,)	-	93 75	
Rent of wharves, (wharfage received,)	-	15 00	
Warren Foundry & Machine Co.,	-	17,959 12	
Caleb Rodman,	-	200 00	
Builders Iron Foundry,	-	250 00	
R. D. Wood & Co.,	-	16,862 32	
Fuller Iron Works,	-	700 00	
Fales, Jenks & Sons,	-	1,420 00	
Cranston Furnace Co.,	-	40 00	
Approved bills,	-	1,273,935 27	64,272 56
			<hr/>
			\$1,313,851 03



1871-72.]

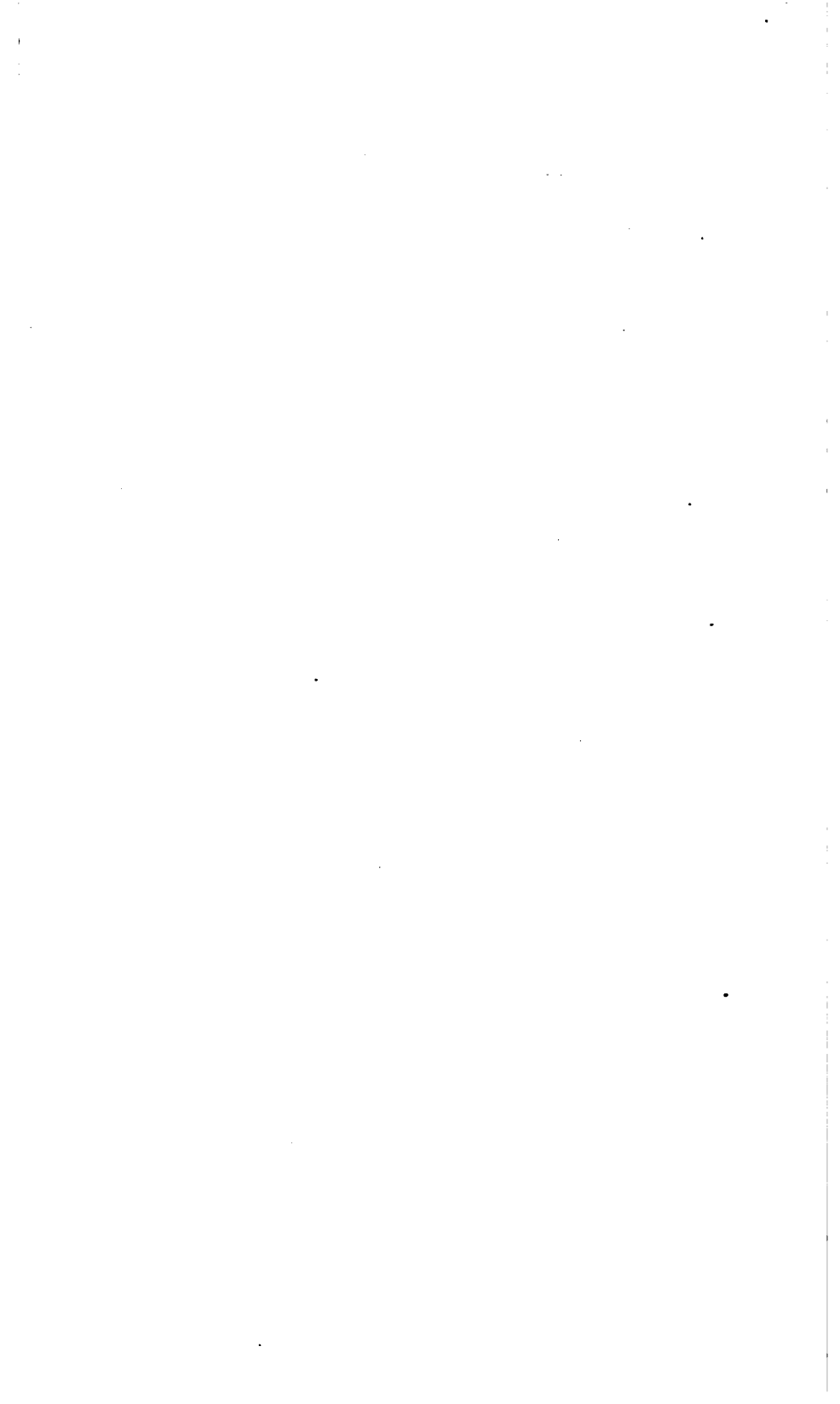
CITY DOCUMENT.

No. 39.

NINTH QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,
JANUARY 1, 1872.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1872.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES E. CARPENTER,

JOSEPH J. COOKE, SECRETARY.

Office No. 10 Woods' Building, corner of South Main and College streets.

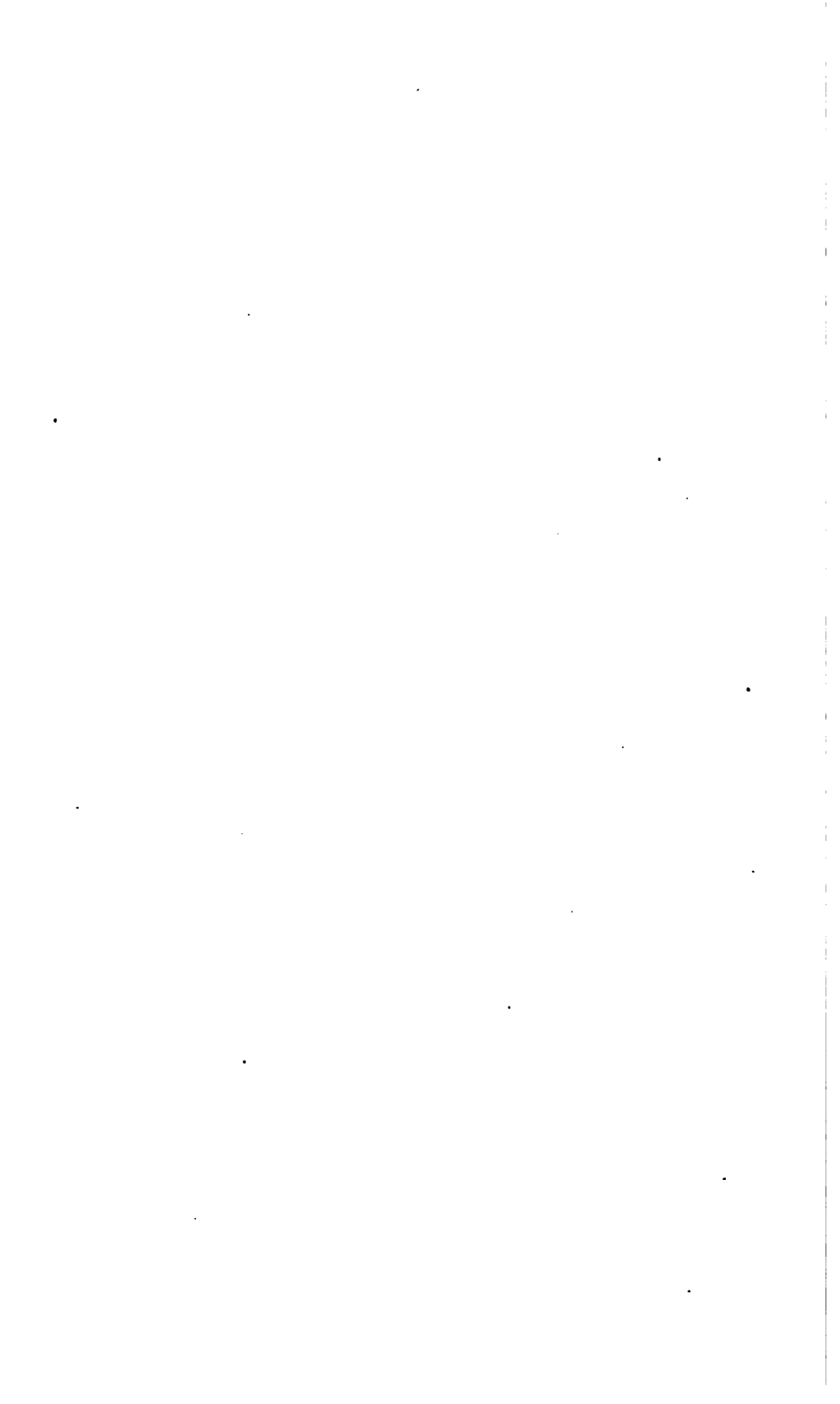
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 6 Woods' Building, corner of South Main and College streets.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, January 1st, 1872. }

TO THE HONORABLE CITY COUNCIL:—

The Water Commissioners respectfully submit their Ninth Quarterly Report :

The City Solicitor and the Commissioners, having approved of a lease to Peleg P. Cranston, of the "Randall Estate" in Pawtuxet, for six years from January 1, 1872, at the annual rent of two hundred dollars, payable quarterly, it was signed by the City Treasurer in accordance with a resolution of the City Council, approved September 4, 1871. By the terms of the lease, the lessee is allowed to expend the first two quarters' rent for repairs, and the City is exempted from making any further repairs whatsoever.

On the 19th of October, a plat of an estate on Olney street, taken by the Commissioners, May 9, 1871, for water purposes, from John Carter Brown and Moses B. I. Goddard, Trustees of the estate of Thomas Lloyd Halsey, deceased, was deposited for record with the Recorder of Deeds. The price of this estate, as well as the price of several lots previously taken from the same parties, had been agreed upon, subject to the approval of the Court, but no deed from them has yet been obtained.

On the 20th of October, the Commissioners made a final settlement with the Warren Foundry and Machine Co., of Phillipsburg, N. J., for Cast Iron Water Pipes furnished by said Company under its contract, dated April 20, 1870, and under the contract with George H. Norman, dated March 7, 1870, which had been assigned to said company, and for six inch pipes embraced in the contract with the Builders Iron Foundry, dated October 26, 1870. The total value, at contract prices, of the pipes furnished by the company was \$482,366.96. The balance of interest in favor of the City, in settlement, was \$54.66. The prices of these pipes ranged from \$51.00 to \$53.98 per ton of 2240 pounds, delivered on the wharf in this City. Before the completion of the contracts, the market value had increased about twenty per cent.

On the 28th of October, the Commissioners advertised for proposals for furnishing 2180 tons of 6 inch, 16 inch and 30 inch Cast Iron Water Pipes, and for separate proposals for 2040 tons of 30 inch Pipes. The proposals which had been received in answer to this advertisement were opened on the 8th of November and were all rejected.

A contract has been executed with the Warren Foundry & Machine Co., dated December 6, 1871, for the first schedule of pipes above named, at \$61.25 per ton of 2240 pounds. This price is much less than the price named in any of the rejected proposals. It is expected that this quantity, in addition to the pipes now on hand, will be all which will be laid in the year 1872, unless a second line of leading mains should be laid from the reservoir to Public street. While such second line is very desirable, it is not at present absolutely necessary, and it is proposed to defer it for a time, unless pipes can be obtained at a lower price than now. It was for this line that the 2040 tons for furnishing which separate proposals were asked, were wanted.

Embarassing delays having occurred in hauling pipes under the contract with Caleb Rodman, notice was given to him on the 16th ultimo of its termination, as provided in the contract, and on the 18th ultimo a contract was executed with John W. and James J. Newman (the contractors for laying pipes) for hauling until October 1, 1872; the price being the same as in the contract which was terminated, as above named.

The salaries of Charles H. Swan and Howard A. Carson, Assistant Engineers, have each been increased to \$2,000 per annum, the increase dating from the 1st of November last.

John E. Bowen, who had been a student in the Engineering Department for two years, and whose second year, as a reward for valuable services and in conformity with a resolution of the Commissioners, adopted September 9, 1870, before reported, had been considered as his third year, was, on the 21st of November, appointed an Assistant Engineer, with a salary of \$1,000 per annum, dating from the 4th of November 1871.

The Worthington Duplex Engine first pumped water from the Pawtuxet river on the fourth day of November, with the smaller of the two plungers with which, in accordance with contract, the engine was furnished. The work of raising the water into the inlet chamber of Sockanosset reservoir, 130 feet above tide water, was accomplished with so much ease that the larger plunger was substituted and has since been in use. The engine was, by contract, to be capable of pumping five million gallons one hundred feet high in twenty-four hours. It is found to be capable of bearing the increased pressure of steam necessary in pumping very nearly that quantity one hundred and eighty feet high in that time.

On Thanksgiving Day, November 30th, the celebration of the first introduction of water into the city, took place under the direction of a Committee of the City Council, and, excepting so far as the high wind and low temperature marred the

pleasure of the occasion, was a complete success. A three inch jet reached a height varying from 130 to 150 feet above high water and produced an artificial storm of hail and snow, the effect of which was not entirely lost in the distance of one-third of a mile in an air line.

The severity of the weather rendering it necessary to protect the bottom of the reservoir, pumping into the interior in its unfinished state was commenced on the 9th ultimo. The bottom is now covered to the average depth of very nearly eight feet, the quantity of water in the reservoir being about twenty four million gallons. This is the maximum height to which it is proposed to allow water to attain in the reservoir during the present winter, and during this time it will not be necessary to pump at night.

A night and Sunday watch has been kept at the engine-house at Pettaconset since the 21st of October, and fire-hydrants have been set inside and outside of the building.

The Appraisers appointed by the Supreme Court, in the matter of the "Aldrich farm" at Pettaconset, have heard the parties and hold the case for advisement.

The Commissioners made application to the Hon. Town Council of the Town of Cranston, at its meeting on the 25th of November, for the acceptance of the work done by them on that portion of Reservoir Avenue lying in said town, under a resolution of said Council adopted on the 24th day of September, 1870. The Council voted to meet on the week following, to examine the work. The Commissioners have since been unofficially informed that, after the examination, the Council voted that the road was in an unfinished state, and they have also been informed that the Council considered it to be so, because the railing of the bridge over the Pochasset river had not been completed and because the graveling between the Knightsville road and the Pochasset bridge was not satisfactory. The Commissioners and the Chief Engineer

had supposed that the work was completed with the exception of the bridge railing, and that that would be finished by the time that it would be examined. The gravel objected to was found on the line of the work and was considered to be reasonably good, but it did not compare favorably with the extra gravel used beyond the Pochasset river, which was obtained within a moderate distance. The expense of graveling to conform to the present views of the Council, as understood, will, on account of the long haul, probably be one thousand dollars. The Commissioners have since addressed a communication to the Council, requesting definite information on the subject, and it is understood that a committee has been appointed in reference thereto.

The work of widening, grading and graveling Reservoir Avenue (formerly Greenwich street,) between the railroad bridge and the city line, under a resolution of the City Council, is not yet quite completed.

The Commissioners, as stated in the last report, expect that plans for Hope reservoir will be matured during the winter, but the pressure of other work may prevent the commencement of its construction during the present year.

In the opinion of the Commissioners, the relative importance of the work remaining to be done, is as follows:

- 1st. The extension of distribution, including the setting of Fire-Hydrants.
- 2d. The construction of the Permanent Pumping Station at Pettaconset.
- 3d. The construction of the High Service Pumping Station on Olney street.
- 4th. The construction of Hope Reservoir.
- 5th. Laying the second line of Leading Mains.
- 6th. Laying the second line of Force Mains.

No general schedule of water rates has yet been established. It has, however, been determined that the price, when measured

or estimated, shall be three cents per one hundred gallons, which is the same as in Boston.

The Commissioners have also adopted the rule, that when water shall be supplied to more than one party through a single tap, the bill for the whole supply furnished through such tap shall be made either to the owner of the estate or some one tenant who shall agree to be responsible therefor. This rule is made necessary by the difficulties otherwise attending the stoppage of the supply when bills are not paid or regulations are violated.

The following statement shows the length of pipe laid during the last quarter; the sizes of the pipes, and the totals from the commencement of the work:

36 INCH.

On Force Main Line,	-	-	32 feet.
Including 8 cut pipes, 1 Y branch and 2 sleeves.			
Previously,	-	-	4,974 "
Total,	-	-	5,006 feet.

80 INCH.

In Eddy street,	-	-	762 feet.
Including 2 cut pipes, 3 branches, 1 man-hole,			
1 blow off and 2 gates.			
Previously,	-	-	29,723 "
Total,	-	-	30,485 feet.

24 INCH.

In Dyer and College streets, Exchange Place,			
across Providence river, and on Temporary Force			
Main and Suction Lines at Pumping Station,			1,840 feet.
Including 8 cut pipes, 2 curved pipes, 2 curved			
flanged pipes, 2 straight flanged pipes, 6 branches,			
7 sleeves, 2 man-holes, 1 blow off, 3 gates and			
2 check valves.			
Previously,	-	-	18,572 "
Total,	-	-	15,412 feet.

20 INCH.

In Lockwood street,	-	-	1,435 feet.
Including 12 cut pipes, 3 curved pipes, 11 branches, 4 sleeves and 3 gates.			
Previously,	-	-	<u>4,571 "</u>
Total,	-	-	6,006 feet.

16 INCH.

In Potter's avenue and Wickenden street,			995 feet.
Including 4 cut pipes, 2 curved pipes, 6 branches, 1 sleeve and 1 gate.			
Previously,	-	-	<u>2,598 "</u>
Total,	-	-	3,588 feet.

12 INCH.

Laid this quarter,	-	-	0 feet.
Previously,	-	-	<u>4,082 "</u>
Total,	-	-	4,082 feet.

10 INCH.

In Cove street,	-	-	80 feet.
Including 3 cut pipes, 1 curved pipe, 2 branches, and 2 gates.			
Previously,	-	-	<u>3,938 "</u>
Total,	-	-	4,018 feet.

8 INCH.

In Aborn, Friendship, Broad, Knight, Bourbon, Cranston, Dyer and Power streets, Broadway and Exchange place,	-	-	7,676 feet.
Including 68 cut pipes, 12 curved pipes, 51 branches, 2 sleeves, 12 bevel-hubs, 26 gates and 1 reducer.			
Previously,	-	-	<u>11,280 "</u>
Total,	-	-	18,956 feet.

6 INCH.

In Dyer, Ship, Buckley, Clemence, Union, Eddy, Walnut, Walker, Snow, Franklin, Jackson, Greene, Coddington, Dodge, Bridgham, Hammond, Spring, Burgess, Knight, Winter, Pond, Pine, Friendship, Clifford, Dorrance, Exchange, Peace, Mawney, Plenty, Portland, Pearl, Lawrence, West Friendship, Summer, Point, Langley, Star, Bowen, Cady, Meeting, Thomas, Waterman, Hopkins, Williams, James, Canal, Haymarket, Steeple, Benevolent, Charles Field, Planet, Stew- art, Benefit, Washington, Somerset, Byron, Fos- ter and Aborn streets; Broadway, Exchange place, Parkis avenue, Arsenal lane, Burr's lane and the Pumping Station,				34,344 feet.
Including 260 cut pipes, 37 curves, 26 bevel-hubs, 162 branches, 1 sleeve, and 118 gates.				
Previously,	-	-	-	46,603 "
Total,	-	-	-	80,947 feet.
Length of pipe of all sizes laid during the last quarter,				47,164 feet.
or 8.93 miles,				
Previously,	-	-	-	121,336 "
or 22.98 miles.				
Total,	-	-	-	168,500 feet.
or 31.91 miles.				

Thus far, but three defective pipes, of the whole number which have been laid, have been discovered. Of these, one contained a portion of "dirty iron" which cracked slightly under the pressure; another had been slightly cracked in cutting off a section, and the third had a sand pocket not exceeding an inch and one half in length. These defects were easily and quickly remedied. About fifteen thousand joints have been made on the work, and, as yet, but one has been discovered which

has leaked, that being on a 24 inch pipe laid under the last contract, and was repaired in about two minutes by a few blows of the caulking hammer. All other "leaks" which have been noticed have been owing to causes temporary in their nature, and in no degree affecting the permanent strength or goodness of the work.

The first service stop was opened on the first day of December ultimo, and was for the Providence Opera House. Fifty-five others have since been opened.

One hundred and eighty-two service pipes have been laid.

Four hundred and twenty-seven applications for a supply of water have been made.

In a number of instances, in which manufacturers having large tanks have been suffering for water, it has been supplied to them by the fire department, by hose leading from the nearest hydrant. Much good has been done in this way.

A number of applications have been made to the Commissioners from the adjacent towns for a supply of water, one of which is of much importance. The Commissioners respectfully suggest that they be authorized to furnish such supply in any case when, in their judgment, the interests of the City will be promoted by so doing.

The Fire-Hydrants which have been adopted, are constructed to supply six streams, when wanted. The heads, or "chucks," are portable, one to be carried by each engine company, and a duplicate to be held in reserve for the purpose of immediately replacing any which may be disabled by accident, or which may be abandoned in case of the possible rapid spread of fire. One head which had been constructed for experiment, and similar to, although not exactly like, those finally ordered, has been tested several times by the Fire Department, and has been highly approved. But one of the regular heads has been entirely finished and delivered to the

Department. This was tested on the 30th ultimo and is understood to have given entire satisfaction. The head which has been delivered weighs sixty-two pounds. Others are expected to follow in rapid succession.

Eighty-seven of these Hydrants have been set; one in each of the following locations:

Exchange Place, corner of Washington Row.

" " " Arcade street.

Broad street, " Dorrance "

" " " Union "

" " " Chestnut "

" " " Clarke's Court.

" " " Summer street.

" " " Winter "

" " " Major "

" " " Friendship "

Washington street, junction with Cove "

" " corner of Mathewson "

" " " Aborn "

" " " Franklin "

" " below Dean "

Friendship " corner of Dorrance. "

" " " Potter "

" " below Plane "

" " corner of Prince "

" " " Lockwood "

" " " Linden "

Pine " " Claverick "

" " between Stewart and Beacon streets.

" " corner of Summer street.

" " Somerset "

High " near Graves' Lane.

" " corner of Fenner street.

" " between Stewart and Summer streets.

" " below Oliver street.

" " corner of Burgess street.

" " " Knight "

High	street, corner of Dodge	street.
"	"	Dexter "
"	"	Harkness "
"	"	Barton "
Dorrance	" junction with Dyer	"
Dyer	" corner of Westminster	"
Aborn	"	" "
Eddy	"	Clifford "
"	"	Tallman's lane.
"	"	Langley street.
"	"	Point "
"	"	Hospital "
Point	"	" "
"	"	Plane "
"	"	opposite to West Clifford street.
Stewart	" corner of Pond	street.
Dean	"	Carpenter "
Broadway,	junction with Federal	"
"	corner of Sutton	"
"	below Andrew	"
"	corner of Bell	"
"	"	Almy "
Harrison	street,	" Division "
"	"	Cranston "
Wilson	"	Gilmore "
Lockwood	"	Providence "
"	"	near Mumford "
"	"	corner of Mary "
Bassett	"	Butler "
Richmond	"	Ship "
Elm	"	Parsonage "
South	"	Hospital "
Greenwich	"	Westfield "
"	"	Henry "
"	"	near Potter's Avenue.
North Main	street, corner of Market	square.
"	"	Meeting street.
"	"	Mill "

North Main street, corner of Stampers street.

Benefit	"	"	Cady	"
"	"	"	N. Court	"
"	"	"	Waterman	"
"	"	"	George	"
"	"	"	opposite to Planet	"
"	"	"	corner of Power	"
"	"	"	John	"
"	"	"	Wickenden	"
"	"	"	Shamrock	"
"	"	"	India	"
Charles Field	"	"	Thayer	"
Canal	"	"	gangway between Steeple and Elizabeth streets.	
"	"	"	gangway between Meeting st. and Throop Avenue.	
"	"	"	Haymarket street.	
South Main	"	"	Transit	"
"	"	"	Packet	"
"	"	"	Patriot	"

The amount of expenditures during the last

quarter, is	-	-	\$220,377 83
The total amount of expenditures is,	-	-	1,494,313 10
The total amount of appropriations is,	-	-	1,600,000 00
The unexpended balance is,	-	-	105,686 90
The amount received during the last quarter and paid to the City Treasurer, is	-	-	2,609 85
The total amount of receipts is,	-	-	5,094 17

An additional appropriation of \$200,000 will probably be asked for during the present quarter.

A schedule of bills approved during the last quarter and of receipts during the same time, and a trial balance of Ledger, December 30th, 1871, are hereunto appended and made parts of this report.

M. B. LOCKWOOD,	} <i>Water Commissioners.</i>
CHAS. E. CARPENTER,	
JOSEPH J. COOKE,	

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM OCTOBER 1, 1871, TO DECEMBER 30, 1871, INCLUSIVE.

1154	R. D. Wood & Co., on account of water pipes,	-	\$1,838 70
1155	James MacDonald & Co., on account of construction of Sockanosset Reservoir,	- - -	8,500 00
1156	John W. & James J. Newman, on account of trenching and back-filling, and laying water pipes,	- - -	11,500 00
1157	Benjamin F. Gladding, excavation of natural filter basin,	- - -	100 00
1158	George W. Lobdell, grading,	- - -	1,785 00
1159	Horace B. Bowen, pipe bolts,	- - -	168 48
1160	Providence Steam & Gas Pipe Co., trenching and back filling, and laying water pipes,	- - -	632 30
1161	Schooner Minnehaha, freight of water pipes, (charged to Warren Foundry & Machine Co.,)	- - -	128 75
1162	James MacDonald & Co., work on gate chambers at Sockanosset reservoir, &c.,	- - -	2,108 56
1163	Providence Steam & Gas Pipe Co., trenching and back filling, and laying water pipes,	- - -	10,000 00
1164	Warren Foundry & Machine Co., on account of water pipes,	- - -	15,000 00
1165	Cranston Furnace Co., gate box covers,	- - -	474 16
1166	Fales, Jenks & Sons, water gates,	- - -	7,796 20
1167	Hope Iron Works, valve boxes,	- - -	912 66
1168	Fuller Iron Works, special castings,	- - -	3,521 94
1169	BUILDER'S IRON foundry, iron screw piles,	- - -	2,554 96
1170	" " " special castings,	- - -	1,533 47
1171	Thomas Phillips & Co., laying service pipes,	- - -	119 05
1172	C. P. Lobdell, work on granite sills for gate chambers at Sockanosset reservoir,	- - -	164 60
1173	H. G. Macomber, driving piles, &c., at Exchange Place bridge,	- - -	214 70
1174	Benoit & Wood, drawing paper,	- - -	23 00
1175	Warren Foundry & Machine Co., on account of water pipes,	- - -	5,998 38
1176	" " " " " "	- - -	3,145 34
1177	Boston Machine Co., check valves,	- - -	1,400 00
1178	Dexter Gorton & Co., work on temporary engine house, &c.,	- - -	789 78
1179	Schooner Mananticco, on account of freight of water pipes, (charged to R. D. Wood & Co.,)	- - -	300 00
1180	Henry R. Worthington, on account of duplex pumping engine,	- - -	9,000 00
1181	Charles D. Ward, salary as principal assistant engineer,	- - -	250 00
	Amount carried forward,	- - -	\$89,954 03

	Amount brought forward,	-	-	\$89,954 03
1182	Lebbeus B. Ward, salary as assistant engineer,	-	-	250 00
1183	Samuel M. Gray, " " "	-	-	250 00
1184	Charles H. Pierce, " " "	-	-	166 67
1185	Charles H. Swan, " " "	-	-	150 00
1186	William T. Schneider, " " "	-	-	100 00
1187	Laurence Bradford, " " "	-	-	125 00
1188	George B. Wheeler, " " &c.,	-	-	166 66
1189	John Geo. Cooper, " " "	-	-	125 00
1190	Howard A. Carson, " " "	-	-	125 00
1191	John E. Bowen, " student, engineering department,	-	-	41 67
1192	George H. Slade, " " "	-	-	33 33
1193	George F. Munro, " " "	-	-	29 03
1194	Lepilete Sweet, 2d, " " "	-	-	25 00
1195	Edmond B. Weston, " " "	-	-	25 00
1196	Mark Wilmarth, " " "	-	-	25 00
1197	Henry N. Francis, " " "	-	-	25 00
1198	Gilbert Kenyon, " on trial, " "	-	-	25 00
1199	Louis R. Daniels, " " "	-	-	25 00
1200	Herbert M. Lillibridge, " " "	-	-	25 00
1201	Augustus F. Nagle, " draughtsman, " "	-	-	156 00
1202	J. Raynor Edmands, " temp. asst't " "	-	-	75 00
1203	Daniel D. Waterman, " " "	-	-	19 40
1204	Andrew B. Eddy, " " "	-	-	53 80
1205	Walter F. Slade, " " "	-	-	45 00
1206	Daniel C. Stone, " " "	-	-	31 65
1207	Stephen Greene, " " "	-	-	5 48
1208	Asa Sisson, " pipe inspector, -	-	-	125 00
1209	Andrew R. Reed, " inspector of masonry, -	-	-	160 00
1210	Jesse E. Gray, " " on reservoir, -	-	-	100 00
1211	Burrows Chace, " " " -	-	-	96 00
1212	George H. DeForest, " " " -	-	-	78 00
1213	Henry B. Brown, " superintendent of pipe yards, -	-	-	125 00
1214	Andrew B. Purdy, " " " laying, -	-	-	166 67
1215	Squire Livsey, " inspector of pipe laying, -	-	-	104 00
1216	Elbert Purdy, " " " " -	-	-	83 33
1217	Foster M. Rhodes, " " " " -	-	-	83 33
1218	Samuel R. Eccleston, " " " " -	-	-	104 00
1219	Henry G. Dennis, " " " " -	-	-	104 00
1220	John C. Harris, Jr., " " " " -	-	-	83 33
1221	Thomas A. McDonald, axman, -	-	-	46 00
1222	William F. Tanner, axman, -	-	-	45 97
1223	Robert F. Nieola, care of offices, -	-	-	25 32
1224	Charles H. Pierce, paid by him for sundries, -	-	-	149 95
1225	" " " " for labor on pipes, -	-	-	237 65
1226	William T. Schneider, paid by him for labor at Pettaconset, -	-	-	101 50
1227	Cyrus J. Person, labor at Pettaconsett, -	-	-	17 25
1228	M. D. Copeland, hauling water pipes, -	-	-	91 00
1229	Henry Blundell, services on pipe line, -	-	-	40 00
1230	George H. Whitney, stationery, -	-	-	24 90
	Amount carried forward,	-	-	\$94,289 92

REPORT OF THE WATER COMMISSIONERS.

19

	Amount brought forward,		\$94,289 92
1231	Sidney S. Rider & Bro., stationery, engineering department,		10 81
1232	Freeborn & Crowell, painting at Pettaconset,		50 68
1233	Patrick Lynch, axman,		52 50
1234	B. F. Gladding, labor at Pettaconset,		19 60
1235	Caleb Rodman, hauling water pipes,		943 67
1236	Henry Mehles, services as draughtsman,		81 00
1237	James MacDonald & Co., on account of construction of Sockanosset reservoir,		5,800 00
1238	George W. Lobdell, grading,		1,275 00
1239	Benjamin F. Gladding, excavation of natural filter basin,		525 00
1240	J. W. & J. J. Newman, laying water pipes, &c.,		617 69
1241	Builders' Iron Foundry, special castings, &c.,		1,167 48
1242	Fuller Iron Works, special castings, &c.,		284 60
1243	Cranston Furnace Co., gate box covers,		429 05
1244	Miller & Sisson, linking curved pipes, &c.,		63 51
1245	H. B. Bowen, pipe and hydrant bolts,		248 32
1246	John A. Moore, stakes, tools, &c.,		208 30
1247	George W. Hall & Co., cement,		4 20
1248	Thomas J. Hill, rent of wharf,		250 00
1249	Jesse W. Starr & Sons, water pipes,		581 34
1250	Fales, Jenks & Sons, water gates, &c.,		1,956 77
1251	Laurence Bradford, paid by him for labor on leading main line,		241 78
1252	John W. & James J. Newman, trenching and back filling, and laying water pipes,		11,000 00
1253	Providence Steam & Gas Pipe Co., trenching and back filling, and laying water pipes,		150 00
1254	James MacDonald & Co., work on gate chambers, &c., at Sockanosset reservoir,		3,525 83
1255	W. A. Burdick, agent, sills for gate chambers at Sockanosset reservoir,		180 00
1256	Hope Iron Works, valve boxes,		1,063 56
1257	G. H. Day, brick for gate chambers,		459 58
1258	David W. Barney, work at Pettaconset,		151 57
1259	R. D. Wood & Co., on account of water pipes,		9,953 21
1260	" " " " " " " "		6,000 00
1261	George W. Lobdell, grading,		4,000 00
1262	Schooner Manantico, on account of freight of water pipes, (charged to R. D. Wood & Co.,)		250 00
1263	Henry R. Worthington, on account of pumping engine,		7,000 00
1264	Charles D. Ward, salary as principal assistant engineer,		250 00
1265	Lebbeus B. Ward, " assistant engineer,		250 00
1266	Samuel M. Gray, " " " "		250 00
1267	Charles H. Pierce, " " " "		166 67
1268	Charles H. Swan, " " " "		166 67
1269	William T. Schneider, " " " "		100 00
1270	Laurence Bradford, " " " "		125 00
1271	George B. Wheeler, " " " "		166 66
1272	John George Cooper, " " " "		112 50
	Amount carried forward,		\$154,402 47

	Amount brought forward,	-	-	\$154,402 47
1273	Howard A. Carson, salary as assistant engineer,	-	-	166 67
1274	John E. Bowen,	"	"	79 17
1275	George H. Slade,	"	student, engineering department,	33 33
1276	George F. Munro,	"	"	33 33
1277	Leprilete Sweet, 2d,	"	"	30 83
1278	Edmond B. Weston,	"	"	25 00
1279	Mark Wilmarth,	"	"	25 00
1280	Henry N. Francis,	"	"	25 00
1281	Louis R. Daniels,	"	"	25 00
1282	Herbert M. Lillibridge,	"	"	25 00
1283	Augustus F. Nagle,	"	draughtsman,	150 00
1284	Henry Mehles,	"	"	112 50
1285	J. Rayner Edmands,	"	temp. asst't	67 50
1286	Daniel D. Waterman,	"	"	24 80
1287	Andrew B. Eddy,	"	"	39 60
1288	Walter F. Slade,	"	"	48 80
1289	Daniel C. Stone,	"	"	11 10
1290	Stephen Greene,	"	"	11 10
1291	Asa Sisson,	"	pipe inspector,	125 00
1292	Andrew R. Reed, salary as inspector at reservoir,	-	-	110 00
1293	Jesse E. Gray,	"	"	100 00
1294	Burrows Chace,	"	"	46 00
1295	George H. DeForest,	"	"	75 00
1296	Henry H. Brown,	"	superintendent of pipe yards,	125 00
1297	Andrew B. Purdy,	"	" work,	166 67
1298	Elbert Purdy,	"	inspector	83 33
1299	Foster M. Rhodes,	"	"	83 33
1300	Samuel R. Eccleston,	"	"	96 00
1301	Henry G. Dennis,	"	"	100 00
1302	John C. Harris, Jr.,	"	"	83 33
1303	Josiah Simmons,	"	"	55 00
1304	S. Horace Wheeler,	"	service pipes,	48 00
1305	Thomas A. McDonald, axman,	-	-	46 00
1306	William F. Tanner,	-	-	50 00
1307	Patrick Lynch,	-	-	50 00
1308	Squire Livsey, setting gate boxes, &c.,	-	-	100 00
1309	Robert F. Nicola, care of offices,	-	-	29 72
1310	Charles H. Pierce, paid by him for sundries,	-	-	239 42
1311	" " " " labor on pipes,	-	-	279 45
1312	W. T. Schneider,	"	" at Pettaconset,	197 00
1313	Kyson Delaney, watchman at engine house,	-	-	56 00
1314	M. D. Copeland, hauling water pipes,	-	-	87 50
1315	Cyrus J. Person, labor at Pettaconset,	-	-	44 50
1316	B. F. Gladding,	-	-	113 47
1317	Daniel F. Burlingame, repairing tools, &c.,	-	-	41 57
1318	Freeborn Potter, wood for pumping station,	-	-	197 13
1319	Benoit & Wood, tracing paper,	-	-	17 00
1320	Manchester, Hopkins & Co., coal and wood,	-	-	40 00
1321	J. W. Briggs, work on office at pipe yard,	-	-	9 35
	Amount carried forward,	-	-	\$158,280 97

Amount brought forward,		\$153,280 97
1322	C. P. Lobdell, work at Pochasset bridge,	21 00
1323	Richardson Manufacturing Company, derrick,	60 00
1324	J. L. Sherman, screen for pumping station,	10 00
1325	A. W. Page, tallow for pumping station,	20 44
1326	Caleb Rodman, hauling water pipes,	471 62
1327	James MacDonald & Co., work on gate chambers, &c., at Sockanosset reservoir,	1,398 53
1328	James MacDonald & Co., brick for gate chambers, &c., at Sockanosset reservoir,	650 10
1329	James MacDonald & Co., on account of construction of Sockanosset reservoir,	6,600 00
1330	Laurence Bradford, paid for labor on line of leading main,	214 49
1331	H. B. Bowen, hydrant bolts,	67 38
1332	J. W. & J. J. Newman, setting fire-hydrants and boxes,	310 00
1333	" " " labor furnished on pipe line, &c.,	422 50
1334	" " " trenching and back filling, and laying water pipes,	8,400 00
1335	George W. Lobdell, grading,	800 00
1336	Benjamin F. Gladding, excavation of natural filter basin, &c.,	625 00
1337	Josephus Read, labor at temporary engine-house,	102 05
1338	Dexter Gorton & Co., labor and materials at temporary engine house, &c.,	1,579 88
1339	R. D. Wood & Co., on account of water pipes,	10,195 98
1340	James MacDonald & Co., work on gate chambers, &c., at Sockanosset reservoir,	1,214 30
1341	Hope Iron Works, valve boxes,	2,096 19
1342	Builder's Iron Foundry, on account of gates for Sockanosset reservoir, &c.,	8,000 00
1343	Fuller Iron Works, special castings,	641 56
1344	Fales, Jenks & Sons, water gates,	2,852 52
1345	Cranston Furnace Co., gate box covers,	394 07
1346	Johnson & Whaley, straw and cement,	24 86
1347	Burrows Chace, inspection at reservoir,	48 00
1348	Boston Belting Company, packing,	10 31
1349	James MacDonald & Co., on account of construction of Sockanosset reservoir,	4,000 00
1350	J. Herbert Shedd, salary as chief engineer,	1,500 00
1351	Charles D. Ward, " principal assistant engineer,	250 00
1352	Lebbeus B. Ward, " assistant engineer,	250 00
1353	Samuel M. Gray, " " " "	250 00
1354	Charles H. Pierce, " " " "	166 67
1355	Charles H. Swan, " " " "	166 67
1356	William T. Schneider, " " " "	100 00
1357	Laurence Bradford, " " " "	125 00
1358	George B. Wheeler, " " " &c.,	166 66
1359	John George Cooper, " " " "	62 50
1360	Howard A. Carson, " " " "	166 67
1361	John E. Bowen, " " " "	83 83
Amount carried forward,		\$212,799 28

Amount brought forward,				-	-	-	\$212,799 28
1362	George H. Slade, salary as student, engineering department,						33 33
1363	George H. Munro, " " " "						33 33
1364	Leprillete Sweet, 2d, " " " "						33 33
1365	Edmond B. Weston, " " " "						25 00
1366	Mark Willmarth, " " " "						25 00
1367	Henry N. Francis, " " " "						25 00
1368	Louis R. Daniels, " " " "						25 00
1369	Herbert M. Lillibridge, " " " "						25 00
1370	Augustus F. Nagle, draughtsman, " " " "						102 00
1371	Henry Mehles, " " " "						112 50
1372	J. Rayner Edmands, temp. asst't. " " " "						70 50
1373	Daniel D. Waterman, " " " "						25 20
1374	Andrew B. Eddy, " " " "						42 60
1375	Walter F. Slade, " " " "						46 80
1376	Daniel C. Stone, " " " "						22 35
1377	Stephen Greene, " " " "						11 55
1378	Jesse E. Gray, inspector and keeper of reservoir,						80 00
1379	Henry H. Brown, superintendent of pipe yards, -						125 00
1380	Andrew B. Purdy, " " " " work, -						166 67
1381	Elbert Purdy, inspector on pipe line, -						18 82
1382	Foster M. Rhodes, " " " " and hydrants, -						83 33
1383	Samuel R. Eccleston, " " " " " -						108 00
1384	Henry G. Dennis, " " " " " -						104 00
1385	S. Horace Wheeler, " " of service pipe, -						100 00
1386	Squire Livsey, services on pipe laying work, -						80 00
1387	Thomas A. McDonald, axman, - - -						46 00
1388	Patrick Lynch, axman, - - -						52 00
1389	Kyson Delaney, night watchman at engine house, -						64 00
1390	M. B. Lockwood, salary as water commissioner, &c., -						513 10
1391	Charles E. Carpenter, " " " " " -						514 05
1392	Joseph J. Cooke, " " " " " -						500 00
1393	William Aplin, commissioners' clerk, -						200 00
1394	Robert F. Nicola, care of rooms, - - -						25 32
1395	Providence Gas Company, gas, - - -						28 00
1396	" " " " rent of wharf, - - -						175 00
1397	Marshall Woods, rent of offices, - - -						525 00
1398	William Aplin, paid sundry office, &c., expenses, -						25 45
1399	Charles H. Pierce, paid laborers at wharf, -						166 00
1400	" " " " for sundries, engineering department, -						249 48
1401	W. T. Schneider, paid for labor at Pettaconset, -						376 70
1402	" " " " on culverts, &c., -						339 72
1403	Cyrus J. Person, labor at Pettaconset, - - -						78 05
1404	George H. Whitney, stationery, - - -						10 83
1405	" " " " for engineering department, -						82 84
1406	Hammond, Angell & Co., printing, - - -						64 49
1407	Knowles, Anthony & Danielson, advertising, - -						7 88
1408	Providence Press Company, " - - -						7 88
1409	Noah D. Payne, " - - -						6 75
1410	Earl Carpenter & Sons, ice, - - -						9 61
Amount carried forward,				-	-	-	\$218,397 24

REPORT OF THE WATER COMMISSIONERS.

23

	Amount brought forward,	-	-	-	\$218,397 24
1411	William H. Fenner & Co., sundries,	-	-	-	53 29
1412	Albert D. Wheeler & Co., horse hire, engineering department,	-	-	-	90 00
1413	Tuttle & Hobbs, horse keeping, &c.,	-	-	-	95 10
1414	M. D. Copeland, hauling water pipes,	-	-	-	87 50
1415	Caleb Rodman,	-	-	-	314 65
1416	Johnson & Whaley, straw and laths,	-	-	-	14 71
1417	C. P. Lobdell, work on granite,	-	-	-	8 00
1418	Henry T. Brown, watchman's detector,	-	-	-	65 00
1419	W. E. Barrett & Co., sundries for pumping station,	-	-	-	16 00
1420	S. Burrough & Co., oil for pumping station,	-	-	-	52 25
1421	W. A. Robinson & Co., oil for pumping station,	-	-	-	17 49
1422	American Steam Gauge Co., vacuum gauge,	-	-	-	20 00
1423	Cleveland & Brothers, furniture, engineering department, &c.,	-	-	-	59 65
1424	G. & C. P. Hutchins, sundries for pumping station,	-	-	-	21 49
1425	Akerman & Co., portfolio, &c., engineering department,	-	-	-	46 78
1426	Barker, Whitaker & Co., tools,	-	-	-	40 95
1427	M. S. Brown, oil pump,	-	-	-	12 50
1428	John H. Appleton, investigations on service pipes, &c.,	-	-	-	177 00
1429	Miller & Sisson, repairing tools, &c.,	-	-	-	36 46
1430	Manchester, Hopkins & Co., coal and wood,	-	-	-	751 77
					<u>\$220,377 83</u>

RECEIVED DURING THE QUARTER AND PAID TO THE
CITY TREASURER.

1871.

Oct.	5.	Of Burrows Chace, for three months rent to 1st instant, of farm in Warwick, purchased of Miss Patience W. Chace,	-	-	-	\$43 75
"	9.	Of William Elsbree, for six months rent to September 25, 1871, of a portion of the "Aldridge Farm," Pettacomet,	-	-	-	62 50
"	27.	Of Builder's Iron Foundry, for cracked pipes,	-	-	-	147 27
Nov.	3.	Of Superintendent of pipe yards for wharfage collected by him,	-	-	-	95 00
"	"	Of Charles Anthony, for cracked pipes,	-	-	-	459 16
"	13.	Of City of Fall River, for cracked pipes,	-	-	-	186 69
"	15.	Of Superintendent of pipe yards, for wharfage collected by him,	-	-	-	50 00
Dec.	2.	Of Superintendent of pipe yards, for wharfage collected by him,	-	-	-	50 00
"	"	Of Thomas Hannay, for three months' rent to 1st instant of estate purchased of Miss Julia Bullock,	-	-	-	75 00
"	20.	Of Providence & New York Steamship Co., for pipes and labor,	-	-	-	1,130 34
"	"	Of Burrows Chace, for three months' rent, to January 1, 1872, of farm in Warwick, purchased of Miss Patience W. Chace,	-	-	-	43 75
"	21.	Of James A. Potter, for pipes and labor,	-	-	-	243 39
"	27.	Of Peleg B. Cranston, for three months' rent, to January 1, 1872, of Randall estate, in Pawtuxet,	-	-	-	33 00
						<u>\$2,609 85</u>

TRIAL BALANCE OF LEDGER, DECEMBER 30, 1871.

DR.

Hope Reservoir, for land, - -	\$123,886 80
Sockanosset Reservoir, for land, - -	16,071 35
" " " moving buildings, - -	802 58
" " " gate chambers, - -	9,096 68
" " " gate houses, - -	75 00
" " " drain, - -	1,266 58
" " " inspection, - -	5,974 18
" " " extra work and materials, - -	988 40
" " " sundries, - -	10 21
" " " watch, - -	6 00
Line of leading mains, for labor and materials, -	4,370 42
" " " extra trenching, &c., -	305 95
" " " land and damages, -	1,135 00
Force main line, for land and damages, -	2,976 35
" " " extra trenching, &c., -	332 56
" " " labor and materials, -	5,009 22
Office furniture, stoves, gas fixtures, &c., -	548 78
Rent of offices, - -	1,462 50
Books, stationery, &c., - -	286 39
Fuel and lights, - -	153 23
Horse-hire by commissioners, - -	19 00
Janitor of rooms, - -	203 00
Traveling expenses of commissioners, - -	122 62
Clerk's salary, - -	1,590 23
Commissioner's salaries, - -	13,500 00
Sundries, - -	127 89
Printing, - -	934 17
Advertising, - -	1,026 39
Fences, - -	2,060 88
Stop-valves, - -	25,789 70
Store house and work shop, - -	749 06
Tools, - -	2,015 42
Labor on pipes, - -	5,999 53
Rent of wharves, - -	1,846 09
Cast iron water pipes, - -	694,796 10
Special castings, - -	44,794 69
Linking curved pipes, - -	230 75
Lumber, - -	1,382 76
Sockanosset Hill Cross Road, - -	3,712 23
Pettaconset Telegraph Line, - -	1,133 16
Dwelling houses at Pettaconset, - -	3,320 94
Culverts and bridge on line of force mains, -	6,775 33
Real estate in Warwick, - -	13,108 59
Water privileges, mill and other real estate in Pawtuxet, - -	50,231 96
Amount carried forward, -	\$1,049,717 76

Amount brought forward,	-	\$1,049,717 76
Pettaconset pumping station, for land,	-	1,267 50
Pochaasset Bridge,	-	1,392 26
Wharf salaries,	-	2,278 00
Temporary engine house at Pettaconset,	-	7,135 33
Engine house at Pettaconset,	-	872 86
Natural Filter Basin,	-	790 83
Roads, slopes, &c., at Pettaconset,	-	6,270 76
Removing Loam,	-	303 20
Iron Screw Piles,	-	2,698 89
Hydrant Bolts,	-	183 06
Pipe Bolts,	-	846 64
Photographs,	-	114 00
Taps and Stops,	-	2,264 30
Valve covers,	-	1,916 37
Service pipe,	-	892 70
Setting fire-hydrants,	-	398 94
Valve boxes,	-	4,303 95
Check valves,	-	1,412 48
Air cocks, boxes, covers and setting,	-	273 68
Night and Sunday watch at engine house,	-	150 00
Pettaconset Pumping Station, for sundries,	-	330 71
" " " for coal and wood,	-	919 50
Culverts at Pettaconset,	-	716 56
Setting blow-offs,	-	231 16
James MacDonald & Co.,	-	109,500 00
Providence Steam & Gas Pipe Co.,	-	95,368 31
George W. Lobdell,	-	24,400 00
Freeborn Johnson & Co.,	-	3,500 00
Builders Iron Foundry,	-	7,460 00
Henry R. Worthington,	-	28,056 55
John W. & James J. Newman,	-	38,900 00
Benjamin F. Gladding,	-	1,250 00
Town of Cranston,	-	5,000 00
A. & W. Sprague Manufacturing Co.,	-	2,500 00
Commissioners of Cove Lands,	-	75 00
City Treasurer,	-	5,094 17
Testing pipe iron,	-	258 50
Iron drain pipes and gate,	-	224 21
Carting pipes,	-	16,968 70
Inspection of pipe laying,	-	6,343 68
Counsel fees,	-	1,000 00
Inspection of pipes,	-	4,603 79
Testing bolts and composition castings,	-	34 25
Laying service pipes,	-	438 15
Laying water pipes,	-	938 06
Laying suction pipes,	-	85 00
Pettaconset Pumping Station, for labor on fuel,	-	29 50
" " " for firemen,	-	139 10

Amount carried forward,

\$1,439,848 41

Amount brought forward, -

\$1,439,848 41

ENGINEERING DEPARTMENT—

For Instruments,	-	-	-	-	1,750 92	
Tools,	-	-	-	-	432 01	
Furniture, stoves, gas fixtures, &c.,	-	-	-	-	1,708 52	
Books, stationery, &c.,	-	-	-	-	1,314 30	
Temporary assistance,	-	-	-	-	5,186 59	
Labor,	-	-	-	-	2,651 88	
Draughting,	-	-	-	-	2,938 00	
Horse and wagon account,	-	-	-	-	845 82	
Horse-keeping, shoeing, &c.,	-	-	-	-	689 11	
Horse-hire,	-	-	-	-	1,132 90	
Rent of offices,	-	-	-	-	1,997 64	
Fuel and Lights,	-	-	-	-	371 19	
Janitor of rooms,	-	-	-	-	364 85	
Experimental Filter,	-	-	-	-	91 08	
Sundries,	-	-	-	-	1,022 95	
Test wells,	-	-	-	-	1,579 40	
Consultations,	-	-	-	-	320 00	
Office building at Pettaconset,	-	-	-	-	553 21	
“ “ “ Sockanosset reservoir,	-	-	-	-	571 41	
Stakes and strips,	-	-	-	-	451 70	
Printing,	-	-	-	-	100 28	
Maps,	-	-	-	-	71 67	
Service-pipe experiments,	-	-	-	-	292 36	
Salaries,	-	-	-	-	48,648 88	75,086 67
						<hr/>
						\$1,514,935 08

CR.

Hope reservoir, for land, (rents received,) -	\$686 00	
Sockanosset reservoir, for land, (rents received, wood sold, &c.,) -	1,038 49	
Real estate in Warwick, (rents received,) -	131 25	
Water privileges, &c., in Pawtuxet, (rents received,) -	726 33	
Pettaconset Pumping Station, for land, (rent received,) -	156 25	
Rent of wharf, (wharfage received,) -	200 00	
R. D. Wood & Co., -	13,500 00	
Fuller Iron Works, -	1,200 00	
Fales, Jenks & Sons, -	2,770 00	
Cranston Furnace Co., -	170 00	
Approved Bills, -	1,494,313 10	
Interest, -	54 66	
		<hr/>
		\$1,514,935 08

1871-72.]

CITY DOCUMENT.

[No. 54.]

TENTH QUARTERLY REPORT
OF THE
WATER COMMISSIONERS.
OF THE
CITY OF PROVIDENCE,

APRIL 1, 1872.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1872.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

MOSES B. LOCKWOOD, PRESIDENT.

CHARLES. E. CARPENTER,

JOSEPH J COOKE, SECRETARY.

Office No. 10 Woods' Building corner of South Main and College streets.

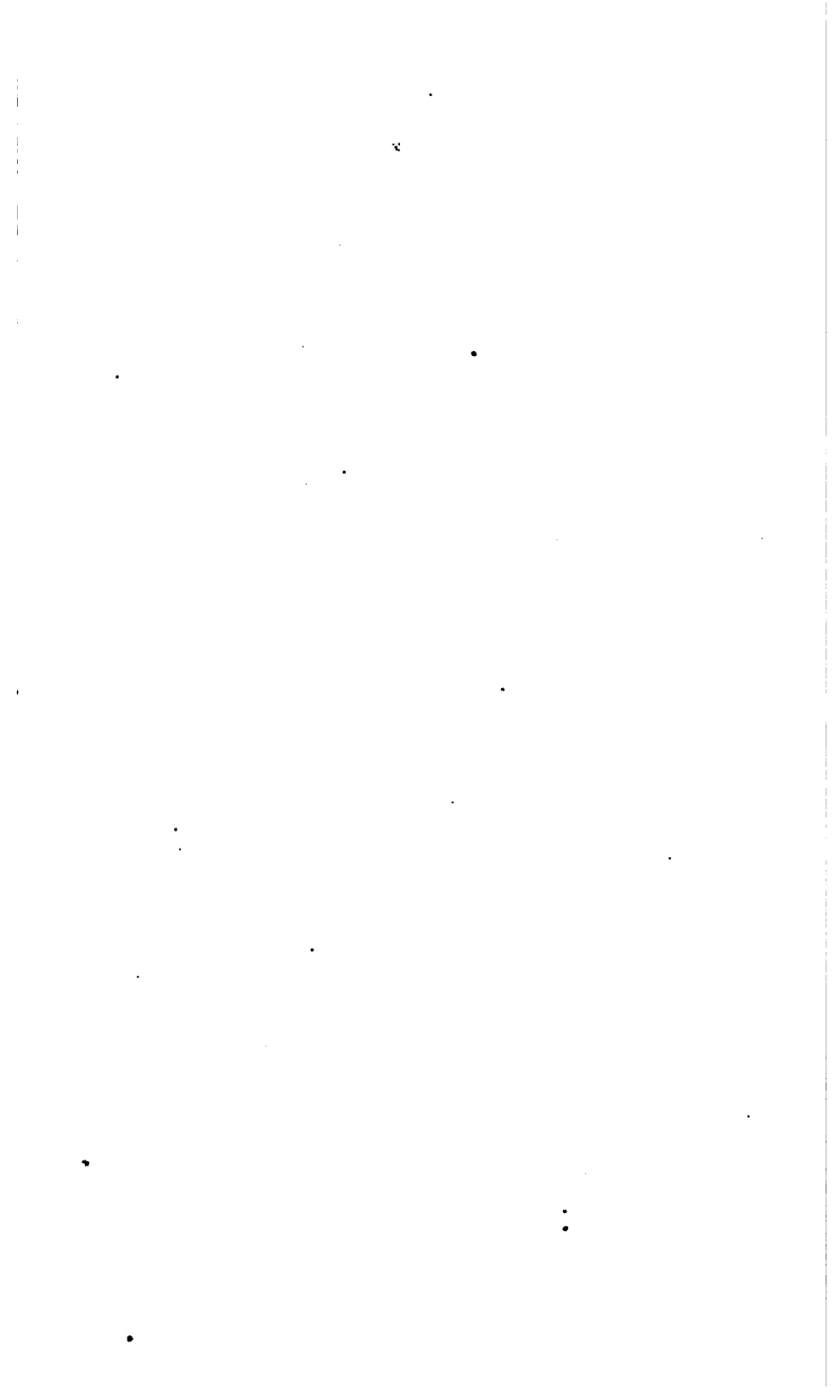
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 6 Woods' Building corner of South Main and College streets.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
Providence, April 1st, 1872. }

TO THE HONORABLE THE CITY COUNCIL:—

The undersigned, Water Commissioners, respectfully present their Tenth Quarterly Report :

On the 20th day of January, the Commissioners advertised for proposals for furnishing a Pumping Engine for the High Service. The proposals which were received, were opened on the 6th day of February, and were all rejected. On the 8th day of February, a contract for the engine was made with George H. Corliss, a copy of which is hereunto appended

A contract has been made with the Builders Iron Foundry of this city, for 126,417 pounds special castings, a part at four cents, and a part at five cents.

An offer made by the Fuller Iron Works of this city to furnish a small number of curved pipes at six cents per pound, has been accepted.

Laurence Bradford has resigned the position of Assistant Engineer.

Lebbeus B. Ward has also resigned the position of Assistant Engineer.

Otis F. Clapp has been appointed an Assistant Engineer, with a salary of twenty-five hundred dollars per annum. He is now employed upon plans for sewerage.

The salary of Charles H. Pierce, Assistant Engineer, has been increased to three thousand dollars per annum, the increase dating from February 1st.

The salary of William Aplin, Commissioners' Clerk, has been increased to one thousand dollars per annum, the increase dating from March 1st.

Henry M. Rawson has been appointed Commissioners' Clerk with a salary of one thousand dollars per annum.

Nathaniel A. Fisher has been appointed Inspector of Water Fixtures, &c., with a salary of twelve hundred dollars per annum.

The farm in Warwick, purchased of Richard U. Rhodes and wife, was vacated in January by Nathan A. Knight, to whom it had been rented for one year from March 25th, 1871. No rent has been paid by Mr. Knight, who left just before the time at which, under our laws, proceedings for ejectment for non payment of rent could have been instituted. The farm has since been leased, by written agreement, to William M. Holloway, for one year from March 1st, at \$225 per annum, payable quarterly in advance. The old buildings on the "Aldridge farm," at Pettaconset have been rented by written agreement to Benjamin F. Gladding, contractor for certain excavation &c., at Pettaconset, for such time as may be mutually convenient, for \$10 per month.

The dwelling-house standing on lot Number 165 on the Halsey Plat, Number Two, was sold in January to Mrs. Julia O'Loughlin, for one thousand dollars, (one hundred and fifty dollars of which she has paid,) to be removed on or before the first day of May next.

The dwelling house standing on Lot Number 160, on same plat, is advertised to be sold at auction on the fourth day of April instant, to be removed.

•

The Appraisers appointed by the Supreme Court in the matter of the taking of the "Aldridge Farm" at Pettaconset, made their report early in January. The fee simple was appraised at \$12,500, and the damages under the Act, at \$12,000. An appeal was entered by each party.

A "Schedule of Water Rates" was adopted after much deliberation, on the 25th day of January. The schemes of the several cities vary so much in form, that it is difficult to institute a critical comparison between them. While in Boston, the rates for dwelling houses are governed in great part by the *assessed value of the estates*, and are in New York based upon the width and height of the houses, they depend in Philadelphia mostly upon the fixtures. It is however, undoubtedly the case, that in New York, Brooklyn and Philadelphia, the rates are, on the whole, lower than ours. The scheme adopted in Cambridge, Mass., is nearest in form to that of our own city of any of which the Commissioners have knowledge; the specific rates, are, however, higher, while there is a provision making the maximum charge for a private dwelling house less than our maximum. The minimum charge by our schedule for a private family is little more than a cent and a half per day—the maximum charge is less than eleven cents per day, and the latter may be reduced to less than three cents per day by the use of a meter, provided that the daily use does not exceed ninety-one gallons. For measured water, the rate of charge is no more for one hundred gallons than it is for twenty thousand gallons.

The charge for measured water in Boston, after the experience of years of a sliding scale, governed by quantity, was fixed in 1865 at a uniform rate of three cents per one hundred gallons, and so remains. In New York, the charge is five cents per one hundred gallons, down to two cents per one hundred gallons, with liberty to the Acqueduct Board to charge as low as one cent for quantities exceeding 10,000 gallons per day.

A form of "Plumber's License," and a form of "Plumber's Bond" have been adopted, and the following licenses have been issued :

To George R. Phillips, for Thomas Phillips & Co.

To Thomas Phillips, for William H. Fenner & Co.

To John L. Calder.

To James Davis, for Davis & Smith.

To Denison H. Finley.

To David Cady, for David Cady & Co.

To Patrick Tierney, for P. & J. Tierney.

To David L. Rea, for David L. Rea & Co.

To James G. Brickley.

The delivery of the regular Hydrant Heads to the Fire Department, was completed early in February ; each of the eight companies having been furnished with one. The first of the eight to be held in reserve was delivered to the Department in the same month. This last was constructed with four outlets instead of six, as will be the case with those remaining to be furnished.

Four Fire Hydrants were set soon after the date of the last Quarterly Report, one each in the following locations :

Dean street, corner of Broadway.

Dean street, corner of Federal street.

Atwell's avenue, corner of Dean street.

Atwell's avenue, corner of Tefft street.

The total number of Fire Hydrants, is now ninety-one.

The following pipes were laid to supply water to the above Hydrants :

20 INCH.

In Dean street,	-	-	49,11 feet
Including 1 cut pipe, 2 branches and 1 sleeve.			

12 INCH.

In Atwell's avenue,	-	-	29,60 feet
Including 2 cut pipes, 1 curved pipe and 1 gate.			

The exemption from trouble arising from leaky joints or defective pipes is remarkable.

The commissioners having obtained the written opinion of the City Solicitor and Hon. Charles S. Bradley in regard to the claims of James MacDonald & Co., contractors for the construction of Sockanosset Reservoir for additional compensation; also their opinion in regard to the powers of the Commissioners in the premises, adopted, on the 26th day of January, the following preamble and resolution :

WHEREAS, a suit is threatened by James MacDonald & Co., contractors for the construction of Sockanosset Reservoir to recover from the City at least the sum of two hundred and twenty-five thousand dollars, less the amount which they have been paid, and WHEREAS, it is considered to be for the interest of the City that the matter should, if practicable, be settled without recourse to law, It is therefore

Resolved, That the sum of one hundred and seventy-two thousand dollars, less the sum which they have already been paid, be paid to James MacDonald & Co., for work already done and materials furnished; the remaining work to be done at contract prices, as directed and understood by the Chief Engineer, and that of the amount due them the sum of twenty-five thousand dollars be paid to them immediately, and the further sum of thirty thousand dollars in the course of the next month; it being understood that no charge is to be made to them for stone used, or as penalty for non-completion of reservoir at the time specified.

The Commissioners received from James MacDonald & Co., their agreement, relinquishing all further claims for work done and materials furnished, and promising to finish the reservoir as provided in the resolution.

The Pumping Engine has continued to work entirely satisfactorily. Its use has been very limited, the reservoir showing no leakage, and the consumption of water being small. The apparently large use for the two recent fires which were

burning at the same time, occasioned a diminution of height of water in the reservoir of but one and one eighth inch.

An analysis of Pawtuxet water, drawn from a faucet in Charles Field street, was made by Professor John H. Appleton, late in February, with the following result :

ANALYSIS CALCULATED FOR THE AMERICAN GALLON,
at 58,872.2 grains.

Mineral matters,	1,226 grains.
Organic & volatile matters,	,875 grains.
Total,	2,101 grains.

The mineral matters are as follows :

Chloride of Sodium,	Trace.
Sulphate of Calcium,	Trace.
Iron Compounds,	Very faint trace.

The organic matters are entirely vegetable, since

No Nitrates, and
No Ammonia Salts

could be detected.

The *Physical properties* of the water are perfectly satisfactory.

Color,	-	slight.
Odor,	-	none.
Taste,	-	none.
Sediment,	-	very slight.
Residue from evaporation,		gray.

Forty-eight Union Water Meters have been put in, of the following sizes, at the expense of water takers :

35, $\frac{5}{8}$ inch.
10, $\frac{3}{4}$ inch.
1, 1 inch.
2, $1\frac{1}{2}$ inch.

The plans for Hope Reservoir are sufficiently advanced to enable the Commissioners to say that it will be at least twenty-

four feet in depth, with a capacity of about eighty million gallons. It is expected that the work will be put under contract the present year.

The Commissioners require that water bills shall be paid promptly, on penalty of a discontinuance of the supply. They have in no case as yet been obliged to turn off the water for non-payment.

The Commissioners would be pleased to learn the wish of the Council with regard to supplying charitable institutions with water at a reduction of price from the regular rates.

The total number of service stops opened to date is one hundred and ninety-five.

The total number of applications for a supply of water is eight hundred and eighty-four.

Water is now supplied for the following uses:

3 banks; 1 barber; 1 bath—Turkish; 1 blacksmith; 5 boarding houses; 1 book-bindery; 1 carriage depository; 1 Christian Union; 4 city fire steamer stations; 1 city drinking trough; 74 dwellings of one family; 14 dwellings of two families; 2 dwellings of three families; 2 dwellings of four families; 1 dwelling of five families; 1 dye house; 1 express carriage house; 91 fire hydrants; 4 fountains—private; 1 gas-fixtures; 2 gold and silver platers; 1 gold and silver refiner; 1 green house; 5 hotels; 1 lumber dealer; 8 machinists; manufacturing establishments:—1 butt; 1 corset; 1 cotton; 1 die sinker; 1 dye wood; 1 geer; 1 iron company; 1 iron fence; 1 iron foundry; 24 jewelry; 2 colorers of jewelry; 2 paper box; 1 pattern; 1 pump; 1 reed; 1 silver ware; 1 soap; 1 spiral spring; 1 stove; 3 tool; 1 top roll; 1 manufacturers' supplies; markets:—3 fish; 4 meat;

mills:—1 drug and grain; 1 marble works; 1 paint; 2 planing; 1 odd fellows hall; 2 opera houses; 1 oyster house; 3 offices; 1 photographer; 2 plumbers; 2 police stations; 2 printing establishments; 2 provision curers and packers; 1 railroad; 4 restaurants; saloons:—1 lager beer; 1 oyster; schools:—1 boarding; 1 private; 1 public; stables:—5 livery; 6 private; 5 steamboats; 7 steamships; 3 steam and gas pipe fitters; stores:—2 apothecaries; 1 cigar; 2 clothing: 1 confectionery; 3 dry goods; 1 flour and grain; 10 grocery—retail; 2 grocery—wholesale; 2 liquor; 1 tea; 1 trunk; 6 not classed; 1 tinman; 1 water boat; 1 wheelwright.

The amount of expenditures during the last quarter is, - - \$143,265 09

The total amount of expenditures is, 1,637,578 19

The total amount of appropriations is, 1,800,000 00

The unexpended balance is, - 162,421 81

The amount received during the last quarter and paid to the City Treasurer is,

For water supplies, (including \$2,730 for annual charge for 91 Fire Hydrants,) \$7,467 88

For water meters, - 1,185 20

For sundries, - 3,670,56

12,323 64

The total amount of receipts to date is, 17,417 81

An additional appropriation will probably be asked for before the close of the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of Ledger, March 30th 1872, are hereunto appended and made parts of this report.

M. B. LOCKWOOD,	} <i>Water Commissioners.</i>
CHAS. E. CARPENTER,	
JOSEPH J. COOKE,	

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM JANUARY 1, 1872 TO MARCH 30, 1872, INCLUSIVE.

1431	Charles H. Parkhurst, counsel fees for year 1871,	-	\$500 00
1432	James MacDonald & Co., on account of construction of Sockanosset reservoir,	- - -	600 00
1433	George W. Lobdell, grading,	- - -	360 00
1434	Benjamin F. Gladding, excavation of natural filter basin, &c.,	- - -	650 00
1435	Asa Sisson, salary as pipe inspector,	-	125 00
1436	James MacDonald & Co., work on gate chambers at Sockanosset reservoir, &c.,	- - -	105 82
1437	Hope Iron Works, valve boxes,	- - -	2,522 69
1438	Builders Iron Foundry, special castings and work at Pochasset Bridge,	- - -	622 76
1439	Cranston Furnace Co., gate box covers,	- - -	404 21
1440	Fuller Iron Works, special castings, &c.,	- - -	82 37
1441	Fales, Jenks & sons, hydrants and water gates,	-	13,102 25
1442	Lewis Thayer, repairing damages to sewer,	-	29 87
1443	Dexter Gorton & Co., boxing pipes under bridge and work at pumping station,	- - -	1,086 09
1444	J. R. Brown, brick for gate chamber at Sockanosset reservoir,	-	172 00
1445	George W. Lobdell, excavation on leading main line,	-	1,056 00
1446	Geo. W. Smith, stone cutter's work in setting hydrants,	-	173 40
1447	Tucker, Swan & Co., coal for pumping station,	-	681 59
1448	Geo. B. Robinson & Co., re-laying wood pavement,	-	160 00
1449	James MacDonald & Co., on account of construction of Sockanosset reservoir,	- - -	25,000 00
1450	Charles D. Ward, salary as principal assistant engineer,	-	250 00
1451	Lebbeus B. Ward, " assistant engineer,	-	250 00
1452	Samuel M. Gray, " " " "	-	250 00
1453	Charles H. Pierce, " " " "	-	166 67
1454	Charles H. Swan, " " " "	-	166 67
1455	Wm. T. Schneider, " " " "	-	100 00
1456	Laurence Bradford, " " " "	-	125 00
1457	Geo. B. Wheeler, " " " "	-	166 66
1458	Howard A. Carson, " " " "	-	166 67
1459	John E. Bowen, " " " "	-	83 33
1460	Geo. H. Slade, " student, engineering department	-	33 33
1461	Geo. F. Munro, " " " "	-	33 33
1462	Leprilote Sweet, 2d., " " " "	-	33 33
1463	Edmund B. Weston, " " " "	-	25 00
Amount carried forward,			\$49,264 04

Amount brought forward,				\$49,264 04
1461	Mark Wilmarth, salary as student, engineering department,			25 00
1465	Henry N. Francis, " " " "			25 00
1466	Louis R. Daniels, " " " "			25 00
1467	Herbert M. Lillibridge, " " " "			25 00
1468	Henry Mehles, draughtsman, " " "			121 50
1469	J. Rayner Edmands, temp. asst't, " " "			78 00
1470	Andrew H. Eddy, " " " "			42 60
1471	Walter F. Slade, " " " "			43 60
1472	Daniel C. Stone, " " " "			30 00
1473	Asa Sisson, pipe inspector, -			125 00
1474	Jesse E. Gray, keeper of reservoir, -			70 00
1475	Henry H. Brown, superintendent of pipe yard, -			125 00
1476	Andrew B. Purdy, " " " work, -			166 67
1477	Samuel B. Eccleston, inspector on pipe line, -			108 00
1478	Henry G. Dennis, " " " "			108 00
1479	S. Horace Wheeler, " " of service pipe, -			108 00
1480	Thomas A. McDonald, axeman, -			46 00
1481	Patrick Leonard, " " " "			35 00
1482	Robert F. Nicola, care of rooms, -			25 32
1483	Charles H. Pierce, paid laborers at wharf, -			162 00
1484	" " " for sundries, engineering department, -			316 28
1485	W. T. Schneider, " " labor at pumping at station, -			40 75
1486	" " " " " " " "			340 60
1487	" " " for watchman at " " " "			82 50
1488	B. F. Gladding, labor at pumping station, -			28 10
1489	Daniel F. Burlingame, making tools at pumping station, -			30 06
1490	Henry Jennison, labor on culvert, -			37 50
1491	Snow, Clafin & Co., sundries for engine house, -			21 11
1492	Albert F. Allen, hose, &c., " " " "			37 40
1493	J. B. Handy, repairing wagon, -			10 12
1494	G. W. Edmonds, " " " "			38 57
1495	Manchester, Hopkins & Co., coal and wood, -			30 00
1496	Manchester Bros., photographs, -			21 00
1497	J. Q. A. Gardiner, damage to quince orchard, -			15 00
1498	M. D. Copeland, casting pipes, -			94 50
1499	Daniel D. Waterman, temporary assistant, -			16 40
1500	Thomas J. Hill, rent of wharf, -			200 00
1501	Thomas G. Bruce, engineer at pumping station, -			125 00
1502	E. R. Jones, drilling and tapping machines, -			698 00
1503	Benjamin F. Gladding, excavation of natural filter basin, &c., -			500 00
1504	American Steam Gauge Co., gauge, -			22 00
1505	M. S. Brown, valves, -			8 42
1506	James B. Tallman, horse hire, engineering department, -			27 00
1507	Benjamin F. Gladding, excavation of natural filter basin, &c., -			300 00
1508	Hope Iron Works, valve boxes, -			3,028 60
1509	Fales, Jencks & Sons, hydrants and boxes, -			2,032 00
1510	Fuller Iron Works, special castings, -			977 98
1511	Cranston Furnance Co., gate-box covers, -			458 81
Amount carried forward,				\$60,296 43

	Amount brought forward,	-	-	\$80,286 43
1512	Miller & Sisson, repairing tools, &c.,	-	-	35 94
1513	John W. & James J. Newman, trenching and backfilling and laying water pipes,	-	-	5,000 00
1514	James McDonald & Co., on account of construction of Sockanosset reservoir,	-	-	30,000 00
1515	John W. and James J. Newman, setting fire hydrants, &c.,	-	-	1,964 71
1516	Providence Steam & Gas Pipe Co., sundry labor and materials,	-	-	805 42
1517	Schooner George Hotchkiss, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	386 30
1518	Charles D. Ward, salary as principal assistant engineer,	-	-	250 00
1519	Lebbens B. Ward, " assistant engineer,	-	-	250 00
1520	Samuel M. Gray, " " " "	-	-	250 00
1521	Charles H. Pierce, " " " "	-	-	250 00
1522	Otis F. Clapp, " " " "	-	-	107 76
1523	Charles H. Swan, " " " "	-	-	166 67
1524	Wm. T. Schneider, " " " "	-	-	100 00
1525	Laurence Bradford, " " " "	-	-	83 33
1526	Geo. B. Wheeler, " " " "	-	-	166 67
1527	Howard A. Carson, " " " "	-	-	166 67
1528	John E. Bowen, " " " "	-	-	83 33
1529	George H. Slade, " student, engineering department,	-	-	33 33
1530	George F. Munro, " " " "	-	-	33 33
1531	Leprilte Sweet, 2d., " " " "	-	-	33 33
1532	Edmund B. Weston, " " " "	-	-	25 00
1533	Mark Wilmarth, " " " "	-	-	25 00
1534	Henry N. Francis, " " " "	-	-	25 00
1535	Louis E. Daniels, " " " "	-	-	25 00
1536	Herbert M. Lillibridge, " " " "	-	-	25 00
1537	Augustus F. Nagle, " " " "	-	-	144 00
1538	Henry Mehles, " " " "	-	-	109 13
1539	J. Rayner Edmands, temporary office assistant, engineering department,	-	-	69 00
1540	Daniel D. Waterman, " " " "	-	-	24 80
1541	Andrew B. Eddy, " " " "	-	-	41 60
1542	Walter F. Slade, " " " "	-	-	43 40
1543	Daniel C. Stone, " " " "	-	-	24 30
1544	Stephen Greene, " " " "	-	-	17 40
1545	Henry M. Rawson, salary as commissioner's clerk,	-	-	31 60
1546	N. A. Fisher, " inspector of water fixtures,	-	-	88 00
1547	Asa Sisson, " " pipes,	-	-	125 00
1548	Henry G. Dennis, " ass't " "	-	-	100 00
1549	Jesse E. Gray, " keeper of reservoir,	-	-	54 00
1550	Henry H. Brown, " superintendent of pipe yards,	-	-	125 00
1551	Andrew B. Purdy, " " " work,	-	-	166 67
1552	Samuel E. Eccleston, " inspector on pipe line,	-	-	96 00
1553	S. Horace Wheeler, " " of service pipe,	-	-	100 00
	Amount carried forward,	-	-	\$101,938 12

	Amount brought forward,	-	-	\$101,938 12
1554	Thomas G. Bruce, salary as pumping engineer,	-	-	125 00
1555	B. F. Stone, fireman at pumping station,	-	-	43 00
1556	John Nickolls, watchman,	-	-	60 00
1557	Thomas A. McDonald, axeman,	-	-	40 00
1558	Patrick Leonard,	-	-	11 38
1559	Robert F. Nicola, care of rooms,	-	-	31 56
1560	Charles H. Pierce, paid laborers at wharf,	-	-	177 30
1561	" " for sundries, engineering department,	-	-	116 61
1562	Wm. T. Schneider, " for labor at pumping station,	-	-	46 50
1563	Laurence Bradford, " " on Reservoir avenue,	-	-	170 37
1564	William Elsbree, labor on pipe line,	-	-	266 36
1565	" " Reservoir avenue,	-	-	78 00
1566	C. J. Person, " at pumping station,	-	-	7 00
1567	M. D. Copeland, carting pipes,	-	-	87 50
1568	B. F. Gladding, labor at pumping station,	-	-	5 00
1569	Slade & Perrin, stakes,	-	-	18 18
1570	Winsor & Brown, lumber,	-	-	7 49
1571	A. C. Eddy & Studleys, rubber boots,	-	-	18 75
1572	George F. Shedd, plumb bobs,	-	-	15 00
1573	J. W. Fiske, drinking fountain,	-	-	121 25
1574	W. S. Fifield, sundries for pumping station,	-	-	13 52
1575	Snow, Claffin & Co., " " "	-	-	10 50
1576	Wood & Winsor, " " "	-	-	27 80
1577	M. Campbell, horse shoeing,	-	-	17 25
1578	Manchester, Hopkins & Co., coal.	-	-	36 00
1579	Union Water Meter Co., water meters,	-	-	997 70
1580	Schooner Sullote, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	721 05
1581	Benjamin F. Gladding, excavation at Pettaconset,	-	-	550 00
1582	Cyrus J. Person, grading on force main line,	-	-	50 00
1583	Warren Foundry and Machine Co., on account of water pipes,	-	-	10,114 40
1584	Fales, Jenks & Sons, hydrants and hydrant boxes,	-	-	9,190 00
1585	Hope Iron Works, valve boxes,	-	-	2,842 03
1586	Fuller Iron Works, special castings, &c.,	-	-	1,202 75
1587	Cranston Furnace Co., gate box covers,	-	-	382 15
1588	Bullder's Iron Foundry, special castings, &c.,	-	-	607 68
1589	Dexter Gorton & Co., work on engine house, &c.,	-	-	512 36
1590	Schooner Muskee, on account of freight of water pipes, (charged to R. D. Wood & Co.,)	-	-	250 00
1591	Schooner David G. Floyd, freight of water pipes, (charged to Warren Foundry & Machine Co.,)	-	-	484 50
1592	Schooner George Hotchkiss, freight of water pipes, (charged to Warren Foundry & Machine Co.,)	-	-	105 59
1593	J. Herbert Shedd, salary as chief engineer,	-	-	1,500 00
1594	Charles D. Ward, " principal assistant engineer,	-	-	250 00
1595	Lebbeus B. Ward, " assistant engineer,	-	-	250 00
1596	Charles H. Pierce, " "	-	-	250 00
1597	Otis F. Clapp, " "	-	-	208 33
1598	Charles H. Swan, " "	-	-	166 67
	Amount carried forward,	-	-	\$134,124 65

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,		-	-	\$134,124 65
1599	William T. Schneider,	salary as assistant engineer,	-	100 00
1600	George B. Wheeler,	" " &c.,	-	166 67
1601	Howard A. Carson,	" " -	-	166 67
1602	John E. Bowen,	" " -	-	83 33
1603	George H. Slade,	student, engineering department,	-	33 33
1604	George F. Munro,	" " "	-	33 33
1605	Leprillete Sweet, 2d.,	" " "	-	33 33
1606	Edmund B. Weston,	" " "	-	20 11
1607	Mark Wilmarth,	" " "	-	25 00
1608	Henry N. Francis,	" " "	-	25 00
1609	Louis R. Daniels,	" " "	-	25 00
1610	Herbert M. Lillibridge,	" " "	-	25 00
1611	Walter R. Jackson,	" " "	-	11 29
1612	Augustus F. Nagle,	draughtsman,	"	156 00
1613	J. Rayner Edmonds,	temp. assistant,	"	69 00
1614	Daniel D. Waterman,	" " "	-	29 20
1615	Andrew B. Eddy,	" " "	-	43 40
1616	Walter F. Slade,	" " "	-	39 40
1617	Daniel C. Stone,	" " "	-	17 55
1618	Asa Sisson,	salary as inspector of pipes,	-	125 00
1619	Henry G. Dennis,	salary as assistant inspector of pipes,	-	104 00
1620	Henry H. Brown,	superintendent of pipe yards,	-	125 00
1621	Andrew B. Purdy,	" " " work,	-	166 67
1622	Samuel R. Eccleston,	inspector on pipe line,	-	104 00
1623	S. Horace Wheeler,	" " of service pipe,	-	104 00
1624	N. A. Fisher,	" " of water fixtures,	-	100 00
1625	Thomas G. Bruce,	pumping engineer,	-	125 00
1626	John Hamilton,	fireman,	-	58 60
1627	John Nickolls,	night watchman,	-	60 00
1628	Edward Bransfield,	Sunday " "	-	8 00
1629	Jephth Baker,	keeper of reservoir,	-	77 50
1630	Thomas A. McDonald,	axeman,	-	40 00
1631	William Apfin,	commissioners' clerk,	-	216 66
1632	Henry M. Rawson,	" " "	-	83 33
1633	M. B. Lockwood,	water commissioner,	-	500 00
1634	Charles E. Carpenter,	" " "	-	500 00
1635	Joseph J. Cooke,	" " "	-	500 00
1636	Robert F. Nicola,	care of rooms,	-	27 05
1637	Samuel M. Gray,	salary as assistant engineer,	-	250 00
1638	Charles H. Pierce,	paid by him for labor at wharf,	-	366 60
1639	Marshall Woods,	rent of offices,	-	525 00
1640	Providence Gas Co.,	rent of wharf,	-	175 00
1641	" " gas,	" " "	-	30 24
1642	Manchester, Hopkins & Co.,	coal and wood,	-	32 00
1643	Benoit & Wood,	mounted paper,	-	15 00
1644	F. W. Lincoln Jr. & Co.,	tracing cloth,	-	15 00
1645	Knowles, Anthony & Danielson,	advertising,	-	84 77
1646	Noah D. Payne,	" " "	-	84 18
1647	Providence Press Co.,	" " "	-	87 74

Amount carried forward, - - - \$139,927 60

Amount brought forward,	-	-	\$139,927 60
1648 Akerman & Co., blank books,	-	-	152 62
1649 Hammond, Angell & Co., printing,	-	-	122 71
1650 Cleveland & Brothers, counter, desk, &c.,	-	-	159 40
1651 William S. Briggs, horse hire for engineers,	-	-	34 00
1652 M. D. Copeland, teaming,	-	-	87 50
1653 Albert Dailey & Co., lumber,	-	-	25 18
1654 Boston Belting Co., rubber packing,	-	-	28 04
1655 Providence Steam & Gas Pipe Co., tools, &c.,	-	-	25 49
1656 Orowell & Nickerson, rope,	-	-	42 04
1657 Charles H. George & Co., pig lead,	-	-	37 74
1658 Union Water Meter Co., water meters,	-	-	1,008 30
1659 George H. Whitney, stationery, &c.,	-	-	45 16
1660 " " " for engineering department,	-	-	150 48
1661 Alfred Stone, services as architect,	-	-	150 00
1662 Charles H. Pierce, paid laborers on culvert,	-	-	113 70
1663 " " " paid by him for sundries,	-	-	105 70
1664 Schooner S. R. Thomas, freight of water pipes, charged to R. D. Wood & Co.,	-	-	1,050 00
			<hr/>
			\$143,265 09

RECEIVED DURING THE LAST QUARTER AND PAID TO THE CITY TREASURER.

1872.

Jan. 1.	Of Stafford & Co., for six months rent of Pawtuxet Mill, to date,	-	-	\$500 00
" 24,	Of James A. Potter, for labor and materials,	-	-	10 25
" 25,	Of Mrs. Julia O'Loughlin, on account of dwelling house to be removed,	-	-	100 00
" 26,	Of John E. Chadwick, for a piece of cracked pipe,	-	-	14 40
" 31,	Of Mrs. Julia O'Loughlin, on account of dwelling house to be removed,	-	-	50 00
Feb. 1,	Of Union Railroad Co., for labor and materials,	-	-	120 88
" 3,	Of Henry H. Brown, superintendent of pipe yards, on account of wharfage collected by him,	-	-	100 00
" 8,	Of Providence Steam Mill, for labor and materials,	-	-	268 00
" 12,	Of Commissioners of Cove Lands, for office table,	-	-	75 00
" 12,	Of City of Providence, for services of engineers on North Main street sewer,	-	-	1050 00
" 12,	For return premiums on canceled policies of insurance,	-	-	13 20
" 15,	Of Providence Gas Co., for labor and materials,	-	-	246 71
" 19,	Of Wm. M. Holloway, for three months rent of farm pur- chased of Richard U. Rhodes and wife, from March 1, to June 1, 1872,	-	-	56 25
" 28,	Of City of Providence, for engineers services on sewers: Waterman street,	-	212 00	
	Manchester, Eddy and Point street,	-	645 00	857 00
			<hr/>	<hr/>
	Amount carried forward,	-	-	\$3,461 97

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,	-	-	\$3,461 97
Mar. 1, Of Thomas Hannay, for three months rent to date, of estate purchased of Miss Julia Bullock,	-	-	75 00
" 7, Of Providence Opera House Co., for labor and materials,	-	-	83 59
" 13, Of Thomas Hannay, for pear trees on estate purchased of Miss Julia Bullock,	-	-	50 00
" 30, For meters to date inclusive,	-	-	1,185 20
" 30, " water " " .	-	-	7,467 88
			<hr/>
			\$12,323 64

TRIAL BALANCE OF LEDGER, MARCH 30, 1872, INCLUSIVE.

DR.

Hope Reservoir, for land,	-	-	123,386 80
Sockanisset Reservoir, for construction,	-	-	172,000 00
" " " sundries	-	-	11 76
" " " land,	-	-	16,071 35
" " " watch.	-	-	207 50
" " " gate houses,	-	-	75 00
" " " drain,	-	-	1,266 58
" " " inspection,	-	-	5,974 18
" " " gate chambers,	-	-	9,632 98
Line of leading mains, for labor and materials,	-	-	5,876 21
" " " extra trenching, &c.,	-	-	305 95
" " " land and damages,	-	-	1,135 00
Force main line, for land and damages,	-	-	2,976 35
" " " labor and materials,	-	-	5,023 17
" " " extra trenching, &c.,	-	-	332 56
Office furniture, stoves, gas fixtures, &c.,	-	-	684 08
Rent of offices,	-	-	1,625 00
Books, Stationery, &c.,	-	-	484 17
Fuel and lights,	-	-	189 19
Horse hire by the Commissioners,	-	-	19 00
Janitor of rooms,	-	-	231 00
Traveling expenses of commissioners,	-	-	123 62
Clerks' salaries,	-	-	1,921 91
Commissioners' salaries,	-	-	15,000 00
Sundries,	-	-	134 87
Printing,	-	-	1,056 84
Advertising,	-	-	1,283 08
Fences,	-	-	2,050 38
Stop valves,	-	-	26,309 70
Store-house and work shop,	-	-	749 06
Tools,	-	-	2,993 06
Labor on pipes,	-	-	3,706 63
Rent of wharves and pipe yards,	-	-	2,221 09
			<hr/>
Amount carried forward,	-	-	\$408,066 57

Amount brought forward,	\$408,036 57
Cast iron water pipes, - - -	705,760 98
Special castings, - - -	48,498 12
Linking curved pipes, - - -	232 75
Lumber, - - -	1,407 94
Fire hydrants, - - -	18,515 00
Sockanosset hill cross road, - -	3,644 50
Pettaconset telegraph line, - -	1,133 16
Dwelling houses at Pettaconset, -	3,582 59
Culverts and bridge on line of force-mains, -	6,775 33
Culverts at Pettaconset, - - -	946 21
Real estate in Warwick, - - -	13,109 49
Water privileges, mill and other real estate in Pawtuxet, - - -	50,231 96
Pettaconset pumping station, for land, -	1,267 50
Pochasset Bridge, - - -	1,503 08
Wharf salaries, - - -	2,653 00
Temporary engine house at Pettaconset, -	8,301 91
Engine house at Pettaconset, - -	872 86
Natural filter basin, - - -	790 83
Roads, slopes, &c. at Pettaconset, - -	6,337 76
Removing loam, - - -	303 20
Iron screw piles, - - -	2,698 89
Hydrant bolts, - - -	183 06
Pipe bolts, - - -	898 01
Photographs, - - -	135 00
Taps and stops, - - -	2,264 30
Valve covers, - - -	8,265 98
Service pipes, - - -	892 70
Hydrant boxes, - - -	7,712 00
Setting fire hydrants, - - -	1,829 48
Valve boxes, - - -	12,581 04
Check valves, - - -	1,412 48
Air-cocks, boxes, covers and setting, -	273 68
Night and Sunday watch at engine house, -	370 50
Pettaconset pumping station, for sundries, -	1,002 00
" " " " engineer, -	375 00
" " " " coal and wood, -	1,608 99
" " " " labor on fuel, -	54 58
" " " " firemen, -	307 10
Setting blow-offs, - - -	265 66
Warren Foundry and Machine Co., -	141 14
Providence Steam and Gas Pipe Co., -	96,471 91
George W. Lobdell, - - -	24,750 00
Freeborn Johnson & Co., - - -	3,500 00
Builders Iron Foundry, - - -	7,315 00
Henry R. Worthington, - - -	28,064 97
John W. & James J. Newman, - -	43,900 00
Benjamin F. Gladding, - - -	3,250 00
Cyrus J. Person, - - -	50 00
Amount carried forward, - - -	\$1,528,498 21

REPORT OF THE WATER COMMISSIONERS.

21

Amount brought forward,	-	\$1,528,498 21	
Providence and New York Steam Ship Co.,	-	108 71	
Town of Cranston,	-	5,000 00	
A. & W. Sprague Manufacturing Co.,	-	2,500 00	
Thomas Phillips & Co.,	-	256 07	
City of Providence, for drinking fountains,	-	122 27	
City Treasurer,	-	9,949 93	
“ “ for water payments,	-	7,467 88	
Testing pipe iron,	-	258 50	
Iron drain pipes and gates,	-	224 21	
Carting pipes,	-	17,242 92	
Counsel fees,	-	1,500 00	
Inspection of pipes,	-	5,482 97	
Testing bolts and composition castings,	-	34 25	
Laying service pipes,	-	438 15	
Inspection of pipe-laying,	-	7,562 02	
“ of water fixtures,	-	188 00	
Laying water pipes,	-	2,321 39	
“ suction pipe, &c.,	-	85 00	
Water meters,	-	2,014 65	
			\$1,591,195 18

ENGINEERING DEPARTMENT—

For Instruments,	-	1,814 40	
Tools,	-	437 16	
Furniture, stoves, gas fixtures, &c.,	-	1,723 77	
Books, stationery, &c.,	-	1,538 58	
Labor,	-	2,755 48	
Draughting,	-	3,485 65	
Horse and wagon, &c.,	-	894 51	
Horse-keeping, shoeing, &c.,	-	706 36	
Horse-hire,	-	1,203 90	
Rent of offices,	-	2,360 14	
Fuel and lights,	-	463 47	
Janitor of rooms,	-	420 78	
Experimental filter,	-	91 08	
Sundries,	-	1,092 08	
Test-wells,	-	1,579 40	
Consultations,	-	320 00	
Office building, at Pettaconset,	-	553 21	
“ “ “ Sockanosset Reservoir,	-	563 22	
Stakes and strips,	-	470 63	
Printing,	-	100 28	
Maps,	-	71 67	
Service pipe experiments,	-	295 76	
Salaries,	-	54,424 35	
Temporary assistance,	-	5,823 52	83,189 40
Amount carried forward,	-	-	\$1,674,384 53

Amount brought forward, - - - \$1,674,384 53

CR.

Hope Reservoir, for land, (rents received)	-	960 00
Sockanosset Reservoir, for land, (rents received,		
wood sold, &c.)	-	1,328 49
Rent of wharves and pipe yards, (wharfage received)		300 00
Real estate in Warwick, (rents received)	-	187 50
Water privileges, &c. in Pawtuxet, (rent received)		1,239 53
Pettaconset Pumping Station, for land, (rent received)		156 25
James MacDonald & Co,	-	4,496 83
R. D. Wood & Co.,	-	12,200 00
Fuller Iron Works,	-	1,480 00
Fales, Jenks & Sons,	-	5,450 00
Cranston Furnace Co.,	-	300 00
Interest,	-	54 66
Water Meters,	-	1,185 20
Approved bills,	-	1,637,578 19
Water, -	-	7,467 88
		<hr/>
		\$1,674,384 53

AGREEMENT WITH GEORGE H. CORLISS FOR A PUMP-
ING ENGINE FOR HOPE PUMPING STATION.

This agreement, made and concluded this eighth day of February, in the year eighteen-hundred and seventy-two, by and between the City of Providence, represented by its Water Commissioners, of the first part, and George H. Corliss, of the second part;

Witnesseth: That whereas, the said party of the second part has proposed to furnish the said party of the first part, a pumping engine for the "High Service," to be located on the southerly side of Olney street, in the said City of Providence, "capable of raising, with ease, five million gallons of water in twenty-four hours, to a height, in a stand pipe, of one hundred and twenty feet above low water, under a possible varying head of forty feet on the suction; to work smoothly, steadily and easily when delivering but one million gallons in twenty-four hours; with Boilers and all appurtenances complete; the Pumps, Boilers and appurtenances to be well set and put in all respects into condition for use, including transportation and cost of erection, and the attachment of the suction and force mains;"

And Whereas, The said party of the second part has proposed to construct said Pumping Engine according to his own plans and to assume the entire responsibility of its working, and of its successful performance of all the peculiar requirements of the Pumping Station where it is to be located:

Now therefore, It is hereby agreed as follows, viz.:-

The said party of the second part in consideration of the covenants herein-after contained, agrees to construct and to furnish to the said party of the first part, a Pumping Engine, including foundations, Boilers and appurtenances, and setting complete, in strict accordance with his proposition as aforesaid; the work to be completed and the engine exhibited in place, with steam on, in readiness to pump water, on the first day of October now next ensuing.

The party of the first part agrees to furnish reliable ground for foundations at a level not lower than six feet below the floor of the engine-house, as a base on which the foundations of the engine shall be built, and also to furnish such ground for the boilers at the level of the fire-room floor; also, to construct a suitable chimney, together with suitable flues for connecting the same with the setting of the boilers and proper enclosure for the work; also, to furnish the necessary suction and force mains to convey the water to and from the engine, with their appurtenances, excluding all special castings required on account of the peculiar construction of the engine.

All to be done in such good time as will cause no delay or expense to the said party of the second part, and affording him all reasonable facility and convenience for doing his work.

It is agreed by the parties hereto that, on or before the completion of the work hereinbefore agreed to be done, a committee of three persons, to be agreed upon by the parties, or in case of their inability to agree, to be chosen, one by each party, and the third by the two so chosen, shall make comparative test of the value of the engine herein contracted for with that of the

Duplex Pumping Engine, now in operation at the Pettaconset Pumping Station, under ordinary working conditions, while delivering two million gallons in twenty four hours, including in such test the duty, cost of attendance and supplies, durability, immunity from accident and need of repairs, adaptability to the peculiar service required at the High Service Pumping Station, and such other conditions as may affect the practical value of a Pumping Engine for the service intended. The conditions and manner of conducting the test to be determined by the aforesaid committee, who shall make a full report of the same in detail, together with an estimate of the money value of each point considered.

The sum to be paid by the said party of the first part to the said party of the second part, in full compensation for the aforesaid Pumping Engine shall be thirty-four thousand dollars, provided that it shall appear from the report of the aforesaid committee that the said Corliss Engine is of equal practical value with the said Duplex Engine, and a further sum equal to the estimated annual saving, (if any such saving shall be reported by the committee,) for ten years, without deduction for interest, provided however, that the total sum to be paid for the said Corliss Engine shall not be more than fifty-five thousand dollars, however great its value may be according to the report of the committee.

The sum determined as due shall be payable on the acceptance of the engine after the report of the committee.

It is further agreed that, if it should appear from the report of the aforesaid committee, that the said Corliss Engine is inferior in value to the said Duplex Engine, then and in that case the said party of the second part shall allow his engine to remain for the use of the city, without charge, for a period not exceeding nine months, in order that time may thus be given for the substitution of another engine, after which he shall remove it at his own cost, without claim for compensation in any way for the work he has done, or for expense he has incurred.

And the said party of the second part further agrees that the said party of the first part shall have the option of the purchase from him of a second engine of the same construction, at the same price as may have been determined for the first.

It is further agreed that the charges of the committee aforesaid shall be borne equally by each party.

In witness whereof, the parties to these presents have hereunto set their hands and seals, the day and year first above written.

The City of Providence by its	{	M. B. LOCKWOOD,	[L. S.]
Water Commissioners,		CHAS. E. CARPENTER,	[L. S.]
		JOSEPH J. COOKE,	[L. S.]

GEORGE H. CORLISS. [L. S.]

Signed and sealed in presence of
WILLIAM APLIN, witness to all the
signatures.

1872-73.

CITY DOCUMENT.

No. 5.

ELEVENTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

JULY 1, 1872.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1872.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.
JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

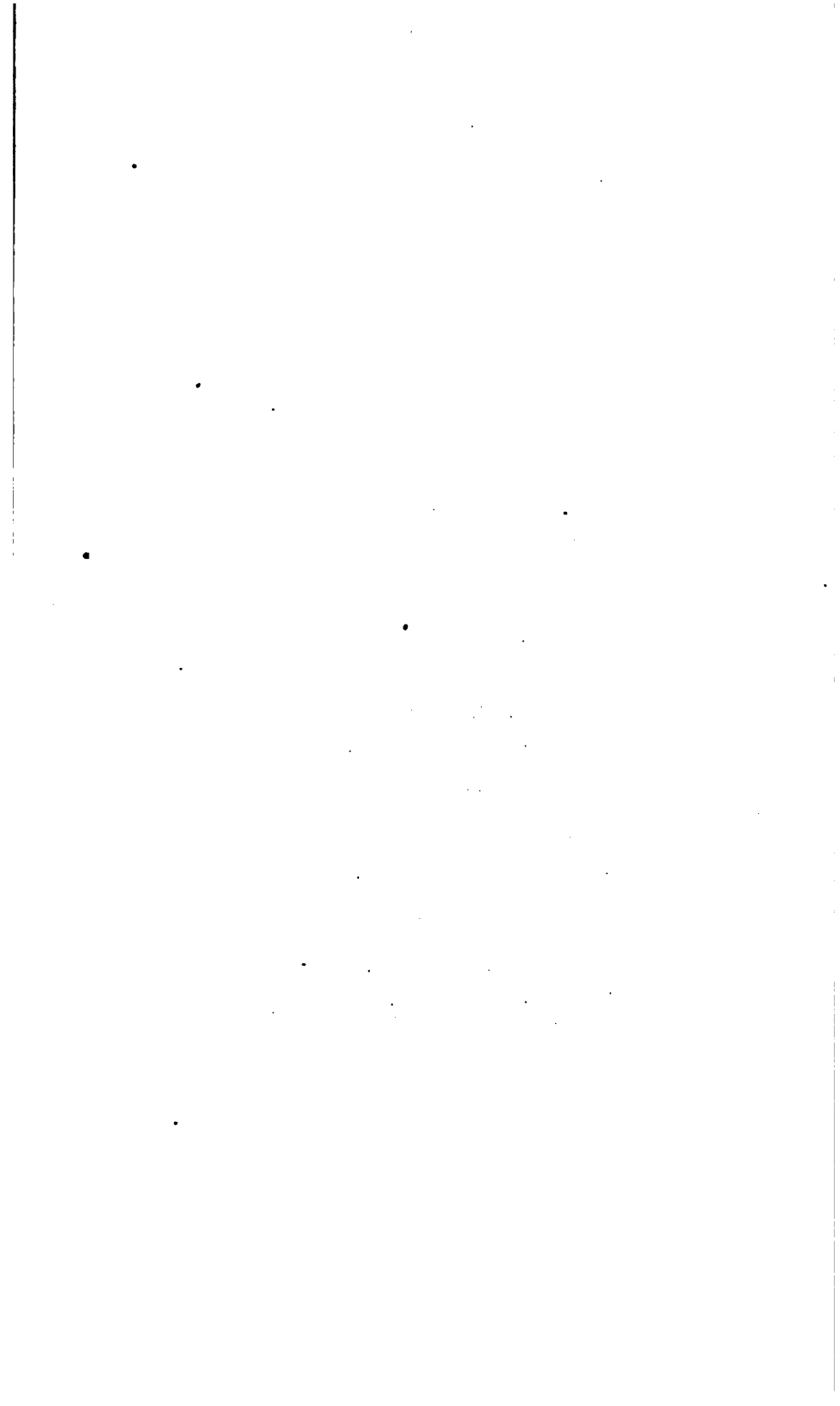
SECRETARY OF THE WATER COMMISSIONERS.
CLINTON D. SELLEW.

Office No. 10 Woods' Building corner of South Main and College streets.

CHIEF ENGINEER.
J. HERBERT SHEDD.

Office No. 6 Woods' Building corner of South Main and College streets.

CONSULTING ENGINEER.
S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
Providence, July 1st, 1872. }

TO THE HONORABLE THE CITY COUNCIL :—

The undersigned, Water Commissioners, respectfully present their Eleventh Quarterly Report :—

Moses B. Lockwood, President of the Board, died on the thirteenth day of May, after a distressing sickness of about four weeks. His funeral, from the First Congregational church, was attended by the members of the City Government ; his colleagues ; the Chief Engineer, Assistant Engineers, Clerks and others engaged on the Water Works, and a large number of his fellow citizens.

William Corliss, elected by the City Council to fill the vacancy caused by the death of Mr. Lockwood, after taking the oath of office, entered upon its duties on the 24th of May.

Joseph J. Cooke was chosen President on the 28th of May, Charles E. Carpenter, previously nominated by Mr. Cooke, having declined an election.

The Commissioners, having resolved that the duties of Secretary had become too numerous and burdensome to be longer filled by one of the Commissioners, with a proper regard to his distinctive duties as Water Commissioner, Clinton D. Sellew was, on the 30th of May, appointed Secretary, with a salary of two thousand dollars per annum.

On the 2d of April, William Aplin, who had discharged the duties of Clerk of the Commissioners since the date of their organization, resigned on account of ill health.

The Clerks in the office of the Commissioners at the present time, are Thomas H. Carrique and Thomas C. Gushee.

George B. Wheeler, assistant Engineer, resigned on the 8th of April.

Charles D. Ward, Principal Assistant Engineer, resigned on the 31st of May.

N. A. Fisher resigned the position of Inspector of Water Fixtures, his resignation taking effect on the 9th of May, at which time the duties of the office were assumed by Frederic A. Arnold.

Augustus F. Nagle has been appointed Mechanical Engineer, dating from April 1st, with a salary of two hundred dollars per month.

J. Rayner Edmands has been appointed Assistant Mechanical Engineer, dating from May 1st, with a salary of one thousand dollars per annum.

Walter F. Slade has been appointed Service Pipe Clerk in the Engineering Department, dating from May 1st, with a salary of eight hundred dollars per annum.

Walter R. Jackson has been appointed Student in the Engineering Department, on the usual terms.

A Dwelling House, which stood on Lot Number 160 on the Halsey Plat Number Two, was sold at auction on the fourth day of April, for thirteen hundred dollars.

The trial of the case of Charles Stafford *et al vs.* the City of Providence for damages for the taking of the " Aldridge farm "

for water purposes, came on in the Supreme court, June 8th, and resulted on the 13th in the disagreement of the jury. The City Solicitor was assisted in this case by Hon. Charles S. Bradley.

In order to finish the bottom of Sockanosset Reservoir, the water was drawn off, May 23d, and during sixteen days the supply was obtained through the conduit. The bottom having been completed, water was again let in for a depth of several feet. The embankment is nearly finished.

The plans for Hope Reservoir are not entirely completed.

Seventeen Plumbers' Licenses have been issued since the last report. The list of licensed plumbers now stands as follows :

George R. Phillips, of Thomas Phillips & Co.

Thomas Phillips, of William H. Fenner & Co.

John L. Calder.

James Davis, of Davis & Smith.

Denison H. Finley.

David Cady, of David Cady & Co.

Patrick Tierney, of P. & J. Tierney.

David L. Rea, of David L. Rea & Co.

James G. Brickley.

Patrick O'Connor.

William H. Wells.

Daniel Holmes, of Harris & Holmes.

George M. Carr.

Henry Ogden.

Charles Law.

H. A. Freeman, of Freeman & Kelly.

Edward M. Dart.

Thomas Sawyer Jr., of Sprague & Sawyer.

James W. Day.

Frederick Grinnell, President Providence Steam and Gas Pipe Co.

Charles B. Sawyer, of Charles B. Sawyer & Co.

David Burton.

James Phillips, of James Phillips & Co.

Linnaeus V. Kennon, of C. V. Kennon & Son.

Thomas M. S. Williams.

Benjamin L. Burdick, of Burdick & Jackson.

The following statement shows the length of pipe laid during the last quarter; the sizes of the pipes; where laid and the totals from the commencement of the work:

24 INCH.

In Waterman Street,	-	-	-	32 feet.
Including 1 cut pipe, 1 branch, 1 man-hole,				
1 reducer and 1 gate.				
Previously,	-	-	-	15,412 "
Total,	-	-	-	15,444 feet.

16 INCH.

In Governor, Smith and Waterman streets,				2,779 feet.
Including 17 cut pipes, 19 branches, 1 re-				
ducer and 4 gates.				
Previously,	-	-	-	3,588 "
Total,	-	-	-	6,367 feet.

12 INCH.

In Atwell's Avenue and Mathewson and				
Waterman Streets,	-	-	-	2,193 feet.
Including 10 cut pipes, 20 branches and 3				
gates.				
Previously,	-	-	-	4,112 "
Total,	-	-	-	6,305 feet.

8 INCH.

In Aborn street, Atwell's Avenue and Broad, Brook, Bourbon, Cent, Cranston, Dime, George, Hope, Knight, Power and Prospect Streets, 13,583 feet.

Including 83 cut pipes, 96 branches, 3 bevel-hubs, 6 curved pipes, 1 reducer, 1 sleeve, and 16 gates.

Previously,	-	-	-	18,956	"
Total,	.	.	.	32,539	feet.

6 INCH.

In Aborn, Angell, Arch, Battey, Benevolent, Bradford, Bridgham, Broad, Brown, Burnett, Carpenter, Central, Charles Field, Coddington, Cooke, Courtland, Crary, Custom House, Daboll, Dorance, East and Eddy streets; Fall River Steamboat wharf; Federal, Fenner, Fountain, Franklin, George, Gilmore, Greene, Hayward, India and Jackson streets, Jackson Court, Kenyon, Knight, Lee, Lester, Linden, Major, Marshall, Mathewson, Mawney, Meeting, Myrtle, Orange, Page, and Pallas streets; Parkis Avenue, Pearl, Peck and Pine streets; Pipe yard of Providence Water Works; Point, Pond, Portland, Potter, Power, Richmond, Sabin, South Main, South Water, Snow, Spring, Sutton, Thayer, Tobey, Traverse, Union, Vernon, Vinton, Walker, Washington, Waterman, West Clifford, West Exchange, Westminster, and Williams streets and the yards of Hartford Providence and Fishkill Railroad Company, and New York Providence and Boston Railroad company, 76,621 feet.

Including 520 cut pipes, 278 branches, 35 bevel-hubs, 66 curved pipes, 5 reducers, 5 sleeves and 174 gates.

Previously, - - - - - 80,947 feet.

Total, - - - - - 157,568 feet.

Total of all sizes during the last quarter, 95,203 feet.
or 18.03 miles.

Previously, including 36 inch, 30 inch, 20 inch, and 10 inch, of which sizes none have been laid during the last quarter, 168,579 "

Total length of all sizes to date, 268,787 feet.
or 49.96 miles.

Two hundred and nine Fire Hydrants have been set since the date of the last Quarterly Report; one in each of the following locations:—

Adelaide avenue, north side, about 20 feet north-west of Greenwich street.

Atwell's avenue, north corner of Sabin street.

" " north-east corner of Bradford street.

" " " " Bond "

" " " " Merrill "

" " north-west " Cheeves Place.

" " " " Acorn street.

" " " " McAvoy "

" " " " Dale "

" " north side, about 70 feet west of Hicks st.

Arch street north-west corner of Junction street.

Batley " north " Vernon "

Benefit " west side, 110 feet south of Star "

" " " about half way between Arsenal lane and Thomas street.

" " south-east corner of Jenckes "

" " " " Meeting "

" " north-east " Halsey "

Benefit street	south-west of Church street.
Benevolent	“ north-east corner of Magee street.
“	“ south-west “ Brook “
“	“ north-west “ Hope “
“	“ “ “ Cooke “
“	“ south side, about 125 feet east of Brown st.
Bridgham	“ west corner of Lester street.
“	“ south-west corner of Junction street.
“	“ south side, about 100 feet west of gang-way or alley west of Junction street.
“	“ east side, on line with north side of Division street.
Broad street,	east corner of Stewart street.
“	“ west corner of Mathewson street.
“	“ “ “ Fenner “
Broadway,	north-west corner of Courtland street.
“	“ north side, in line with east side of Barton street.
“	“ “ “ “ Harkness “
“	“ “ about half way between Knight and Vinton streets.
“	“ north-east corner of Pallas street.
“	“ “ “ Barclay “
“	“ north-west “ Hicks “
“	“ north side, in line with east side of Battey street.
Brook street,	west side, about 150 feet north of Power “
Bourbon	“ south side, about 190 feet west of Broad “
Bucklin	“ corner of Burnett street.
“	“ east side, half way between Mawney and Daboll streets.
Carpenter street,	south-west corner of Courtland street.
“	“ south side, about 120 feet west of Knight st.
“	“ “ half way between Knight and Courtland streets.
“	“ south-east side, about 190 feet south-west of Battey street.
“	“ “ “ about 120 feet northeast of Battey street.

Carpenter street,		easterly corner of Belknap street.	
"	"	south side, in line with east side of Shepard st.	
"	"	south corner of proposed extension of Jackson street.	
"	"	south-east corner of Marshall street.	
Cedar	"	south east corner of Bradford street.	
Central	"	north-west side, in line with north-east side of Major street.	
"	"	"	" about half way between Major and Pearl streets.
Chestnut	"	west corner of Clifford street.	
"	"	"	" Bassett "
"	"	south-west side, in line with northwest side of Tallman's lane.	
"	"	west corner of Pine street.	
Codding	"	westerly side, at or near angle in said street.	
"	"	"	" about 320 feet north of Cranston st.
Cranston	"	south-west corner of Gilmore street.	
"	"	south corner of Dexter "	
"	"	south side, about half way between Parade and Diamond streets.	
"	"	south-east side, about 175 feet north-east of Susan street.	
"	"	"	" half way between Susan and Superior street.
"	"	"	" about 55 feet south-west of Ford street.
"	"	"	" about 200 feet north-east of Bridgham street.
"	"	easterly corner of Codding street.	
"	"	south-east side, in line with easterly side of Burgess street.	
"	"	"	" in line with easterly side of West Hoyle street.
Crary	"	north side, about 180 feet west of Eddy street.	
Daboll	"	"	" half way between Bucklin street and West Elmwood avenue.

Dean street,	south-west side, about opposite foot of west side of Solar street.
"	" westerly corner of Fountain street.
"	" easterly corner of Garden "
Dorrance	" northerly corner of Westminster street.
Elm	" south side, at junction with Bassett "
Eddy	" east side, about 230 feet north of Ship street.
"	" westerly corner of South "
"	" north-westerly corner of Borden "
Federal	" north corner of Fountain "
"	" north-west corner of Bradford "
Fountain	" westerly corner of Curry place .
"	" north-west side, about 80 feet south-west of Broadway.
"	" northerly corner of Lime street.
"	" north side, about 75 feet west of Battey street.
"	" " " 374 feet east " "
"	" " " 334 feet west of Dean "
"	" south-west corner of Hayden "
"	" north-west corner of Mathewson "
Franklin	" southerly " Garden "
Friendship	" north " Richmond "
"	" on west line of Hemlock "
"	" north side, about 120 feet east of Claverick st.
"	" north-west side, in line with north side of Dudley street.
George	" north side, in line with west side of Brown st.
"	" north-west corner of Prospect street.
"	" north side, about 200 feet west of Thayer st.
Governor	" west side, in line with north side of Manning street.
"	" " " about 50 feet south of George st.
"	" south-east corner of Power street.
"	" south-west " of Young Orchard Avenue.
Greene	" south corner of Washington street.
Greenwich	" corner of Burnett street.
"	" south-west corner of Daboll street.

Greenwich street,		south-east corner of Bourbon street.
"	"	north-west corner of Wilson street.
Hope	"	south-west corner of Angell "
Harrison	"	west side, about half way between Lester and Wilson streets.
High	"	east corner of Spring street.
"	"	south side, half way between junction of Westminster and junction of Broad streets.
Jackson	"	south corner of Garden street.
Kenyon	"	south-west corner of Pallas street.
Knight.	"	east side, corner of Washington street.
"	"	" opposite southerly line of Grant st.
"	"	west side about 200 feet north of Cranston st.
Lester	"	easterly corner of Constitution street.
"	"	southerly " "C" "
"	"	south-east side, about half way between "A" and Monroe streets.
Lockwood	"	north-west corner of Clay street.
"	"	south " of Prairie Avenue.
"	"	south-west side, in line with westerly side of Dexter Avenue.
"	"	south-west side, about 190 feet north-west of Pine street.
Mawney	"	north side, about 270 feet east of Green- wich street.
"	"	" " 68 feet west of Updike st.
North Main	"	north-west corner of Lamb street.
"	"	south-west " " Steeple "
"	"	" " Elizabeth street.
Parkis Avenue,		south side, about 285 feet east of Green- wich street.
"	"	" " 217 feet west of Broad st.
Pearl street		corner of Rice street.
"	"	east " " Pond "
Pine	"	corner of Hay street.
"	"	corner of Orange street.

Pine street,	north corner of Eddy street.
" " " " "	Page "
" " " " "	Byron "
" " " " "	Pearl "
" "	north-west side, about 105 feet south-west of Richmond street.
Plane "	west side, in line with north-west side of Clifford street.
Point "	north-west corner of Chestnut street.
" "	north side, about 275 feet east of Eddy st.
Pond "	south side, about 280 feet west of Fenner street.
Portland "	easterly corner of Broad street.
" "	" " " Vine "
" "	northerly corner of Friendship street.
Power "	north side, about half way between Brook and Thayer streets.
" "	" " about 285 feet west of Thayer st.
" "	south " in line with east side of Brown st.
" "	half way between Brook and Hope streets.
" "	about 250 feet east of Hope street.
Richmond "	south-west side, opposite Engine House No. 7.
" "	south corner of Read street.
Sabin "	north-east corner of Calender.
Snow "	north " " Chapel.
" "	north-east side, about half way between Washington and Westminster streets.
South "	west corner of Hoppin street.
South Main "	east side, opposite Dime street.
" "	west corner of Farthing street.
" "	" " " Pike street.
" "	" " " Shamrock street.
" "	" " " India street.
South Water "	east corner of Cent street.
" "	south-east corner of Leonard street.

South Water street, south-east corner of the Lane first north
of Crawford street.

"	"	north-east corner of Ward	"
"	"	"	" " Bullion "
"	"	south-east	" " Silver "
Spring	"	east side, 160 feet north of Broad street.	
Stewart	"	north-west side, at or near angle in said st.	
Sutton	"	east side, about 55 feet north of Lee street.	
"	"	"	" 150 " " Asia "
"	"	"	" 185 " south of " "
Thayer	"	south-west corner of Benevolent	"
"	"	north-west	" " Williams "
Tobey	"	east corner of Penn street.	
"	"	"	" " Grove "
Traverse	"	east side, about 113 feet south of Sham-	
		rock street.	
Union	"	northerly corner of Westminster street.	
"	"	north-east side, in line with north-west side	
		of Comfort street.	
Vernon	"	north-west corner of Pallas street.	
"	"	north side, about 200 feet east of Vinton st.	
Vinton	"	west corner of Carpenter street.	
"	"	" side, about 205 feet north of Broad-	
		way.	
"	"	"	" " in line with north side of Asia st.
"	"	"	" " about 50 feet south of Lee street.
Walker	"	southerly corner of Gangway between	
		Washington and Westminster	
		streets.	
Washington	"	south side, about 200 feet west of Dean st.	
"	"	" corner of Oliver street.	
"	"	" about half way between Knight	
		and Battey streets.	
Waterman	"	south side, between Benefit and Prospect sta.	
"	"	south-west corner of Prospect street.	
"	"	north-west	" " Brown "
"	"	north-east	" " Thayer "

Waterman street,	north-west corner of Hope street.
" "	south-east " " Ives "
" "	" " Gano "
West Clifford "	west corner of Pearl street.
" "	north-east side, about 100 feet north-east of Lockwood street.
West Exchange street,	north side, about 143 feet east of Bradford street.
Westminster "	west corner of Greene street.
" "	westerly " " McNeal Lane.
" "	west " " Mathewson street.
Wickenden "	corner of Cent street.
Wilson "	north side, about 190 feet east of Fuller st.
Winter "	north-east side, about half way between Cranston and Pond streets.
" "	north-east side, about half way between Broad and Pond streets.
Williams "	north side, about half way between Bene- fit and Thayer streets.
" "	" about 125 feet east of East st.
The total number of Fire Hydrants, is now three hundred.	

Fifteen hydrants have also been set for use in filling street sprinkling carts, etc. These can also be used with a single line of hose for extinguishing fires.

One hundred and eighty-eight Union water meters have been put in, at the expense of water takers since the last report. There are two hundred and thirty-six now in use, viz.:

- 181 five-eighths inch,
- 34 three-quarters inch,
- 15 one inch,
- 6 one and one-half inch.

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Thirty-nine meters have been ordered which have not yet been put in.

The total number of applications for a supply of water is seventeen hundred and eighty-five.

The total number of service stops opened is eight hundred and fifty-seven.

Water has been shut off for non-payment of bills in but three cases, in two of which the bills were immediately paid and the water was again let on; the third was a case of bankruptcy, and the works which were supplied are now idle.

Water is now supplied for the following uses:

1 bakery; 6 banks; 8 bar-rooms; 1 bath, Turkish; 16 boarding houses; 2 bottling establishments; 11 building purposes; 1 carriage depository; 1 Christian Union; 2 churches; 1 City Building; 1 city drinking fountain; 1 city drinking trough; 5 city fire steamer stations; 2 club rooms; 5 coal yards; 384 dwellings for one family; 153 dwellings for two families; 7 dwellings for three families; 11 dwellings for four families; 4 dwellings for five families; 2 dwellings for six families; 1 dwelling for seven families; 1 dye house; 1 express carriage house; 300 fire hydrants; 17 fountains, private; 1 furrier; 357 garden and street hydrants; 1 gas fixtures; 2 gold and silver platers; 3 gold and silver refiners; 10 green houses; 1 Hall of Latter Day Saints; 7 hotels; 2 lumber dealers; 4 machinists. Manufacturing establishments,—1 blank book; 1 bologna sausage; 1 brass foundry; 1 brewery; 1 brush; 1 butt; 2 carriage; 2 confectionery; 1 corset; 3 colorers of jewelry; 3 cotton; 1 crocus; 1 die sinker; 1 dye wood; 1 eyelet; 2 furniture; 1 gas; 1 gas burners; 1 geers; 2 ice cream and soda water; 1 iron company; 1 iron fence; 5 iron foundries; 52 jewelry; 3 lapidaries; 2 paper box; 1 pattern; 2 patent medicines; 1 pump; 1 reed; 2 sash and blinds; 2 silver-ware; 4 soap; 1 spiral spring; 1 steam boiler; 1 stove; 4 tool; 1 top roll; 1 yeast. 1 manufacturers' supplies. Markets,—8 fish; 20 meat. Mills,—1 drug and

grain; 2 marble works; 1 paint; 4 planing. 1 Odd Fellows Hall; 2 opera houses; 3 oyster houses; 97 offices; 2 photographers; 2 plaster and stucco workers; 2 plumbers; 2 police stations; 5 printing establishments; 4 provision curers and packers; 4 railroads; 8 restaurants. Saloons,—1 billiard; 1 bowling; 3 ice cream; 2 lager beer; 5 oyster. Schools,—1 boarding; 2 private; 2 public. Shops,—5 barbers; 3 blacksmiths; 1 carpenter; 1 junk; 3 paint; 1 shoemaker; 1 tailor; 2 tinmen; 8 sprinkling carts. Stables,—1 hack; 18 livery; 31 private; 1 sale. 7 steamboats; 7 steamships; 4 steam and gas pipe fitters. Stores,—15 apothecary; 3 boots and shoes; 1 carriage trimmings; 3 cigar; 5 clothing; 3 confectionery; 5 dry goods; 1 fancy goods: 1 flour and grain; 8 fruit; 4 furniture; 2 gents' furnishing goods; 23 grocery, retail; 7 grocery, wholesale; 1 hardware; 3 house furnishing goods; 1 jewelry; 6 liquor; 3 millinery; 1 paper and paper stock; 1 produce, wholesale; 1 tea; 1 trunk; 6 not classed. 1 United States Custom House building; 1 upholsterer; 2 water boats; 1 wheelwright; 1 wood turner.

The amount of expenditures during the last quarter is \$271,682 97

The total amount of expenditures is 1,909,261 16

The total amount of appropriations is 2,000,000 00

The unexpended balance is 90,738 84

The amount received during the last quarter, all of which has been paid to the City Treasurer is

For water supplies, (including \$3,811 97 for 178 fire hydrants to January 1, 1873,) . . . \$12,366 89

For water meters, 4,714 00

For sundries, 3,936 85

21,017 74

The amount of receipts for water to date is 19,834 77

The total amount of receipts to date is 38,485 55

An additional appropriation will be needed before the close of the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of ledger, June 29th, 1872, are hereunto appended and made parts of this report.

JOSEPH J. COOKE,
CHAS. E. CARPENTER, } *Water Commissioners.*
WILLIAM CORLISS,

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM APRIL 1, 1872, TO JUNE 30, 1872. INCLUSIVE.

1665	Schooner Manantico, on account of freight of water pipes, (charged to R. D. Wood & Co.,)	\$250 00
1666	Schooner David G. Floyd, freight of water pipes, charged to (Warren Foundry and Machine Co.,)	458 95
1667	Benjamin F. Gladding, excavation, &c., at Pettaconset,	450 00
1668	" " " labor,	11 21
1669	H. B. Bowen, hydrant bolts,	383 84
1670	R. D. Wood & Co., on account of water pipes,	17,000 00
1671	Hope Iron Works, valve boxes,	2,515 99
1672	Cranston Furnace Co., gate box covers,	723 74
1673	Builders' Iron Foundry, special castings, &c.,	2,052 13
1674	Benjamin F. Gladding, excavation &c., at Pettaconset,	200 00
1675	Warren Foundry and Machine Co., on account of water pipes,	33,785 41
1676	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	365 37
1677	R. D. Wood & Co., on account of water pipes,	206 15
1678	Schooner Daniel Morria, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	392 20
1679	Schooner David G. Floyd, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	315 22
1680	Fales, Jenks & Sons, hydrants, taps, stops, &c.,	8,351 21
1681	Schooner Manantico, on account of freight of water pipes, (charged to R. D. Wood & Co.,)	250 00
1682	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	273 49
1683	Charles D. Ward, salary as principal assistant engineer,	250 00
1684	Charles H. Pierce, " assistant engineer,	250 00
1685	Samuel M. Gray, " " "	250 00
1686	Otis F. Olapp, " " "	208 83
1687	Charles H. Swan, " " "	164 67
1688	William T. Schneider, " " "	100 00
1689	George B. Wheeler, " " "	33 33
1690	Howard A. Carson, " " "	106 07
1691	John E. Bowen, " " "	83 33
1692	Augustus F. Nagle, " mechanical "	200 00
1693	Lucius J. Sampson, " student, engineering department,	34 72
1694	George H. Slade, " " "	33 33
1695	George F. Munro, " " "	33 33
1696	Lepriete Sweet, 2d, " " "	33 33
1697	Edmund B. Weston, " " "	33 33
1698	Mark Wilmarth, " " "	30 83
Amount carried forward,		\$69,923 11

Amount brought forward,		\$69,932 11
1699	Henry N. Francis, salary as student, engineering department,	82 78
1700	Louis R. Daniels " " " "	30 83
1701	Herbert M. Lillibridge, " " " "	25 00
1702	Walter R. Jackson, " " (on trial), " "	25 00
1703	J. Rayner Edmands, " temporary assistant, " "	76 50
1704	Andrew B. Eddy, " " " "	35 60
1705	Daniel D. Waterman, " " " "	27 80
1706	Walter F. Slade, " " " "	49 40
1707	Daniel C. Stone, " " " "	19 90
1708	Asa Sisson, " inspector of pipes, " "	125 00
1709	Henry G. Dennis, " asst. " " "	104 00
1710	Henry H. Brown, " superintendent of pipe yards, " "	125 00
1711	Andrew B. Purdy, " " " work, " "	166 67
1712	Samuel R. Eccleston, " inspector on pipe line, " "	104 00
1713	Kilbert Purdy, " " " " "	104 00
1714	Foster S. Dennis, Jr., " " " " "	83 33
1715	George Bowers, " " " " "	83 33
1716	William H. Patterson, " " " " "	83 33
1717	S. Horace Wheeler, " " of service pipes, " "	108 00
1718	Thomas G. Bruce, " pumping engineer, " "	125 00
1719	John Hamilton, fireman at pumping station, - -	54 00
1720	William M. Holloway, night watchman, - -	52 00
1721	Edward Bransfield, Sunday " - -	8 00
1722	Jephtha Baker, keeper of reservoir, - -	77 50
1723	Thomas A. McDonald, axeman and night watchman, - -	51 40
1724	William Joyce, axeman, - -	17 50
1725	N. A. Fisher, salary as inspector of water fixtures, -	100 00
1726	Henry M. Rawson, salary as commissioner's clerk, -	83 34
1727	Thomas C. Gushee, " " " "	83 33
1728	Charles H. Pierce, paid by him for labor at wharf, -	653 40
1729	" " " " sundries, -	134 40
1730	William T. Schneider, " " " labor at Pettaconset, -	102 88
1731	B. F. Gladding, labor at Pettaconset, - -	24 70
1732	Daniel F. Burlingame, making tools at pumping station, -	12 94
1733	Dexter Gorton & Co., hydrant boxes, - -	229 61
1734	A. C. Eddy & Studleys, rubber belt, - -	11 28
1735	John Mason, drawing boards, &c., - -	21 04
1736	Barker, Whitaker, & Co., tools, &c., - -	24 45
1737	Tuttle & Hobbs, horse keeping, &c., - -	78 00
1738	Providence Nickel Plating Works, plating and polishing, -	30 75
1739	Sidney S. Rider & Bro., books, - -	15 00
1740	B. J. Blanchard, stone posts and coping, - -	47 30
1741	M. D. Copeland, carting pipes, - -	94 50
1742	Union Water Meter Co., water meters, - -	1,529 10
1743	Cleveland & Bros., office furniture, - -	15 00
1744	William E. Taber & Son, clock, - -	25 00
1745	John H. Appleton, analysis, &c., - -	20 00
1746	George W. Lobdell, grading, - -	1,781 45
1747	Benjamin F. Gladding, excavation, &c., - -	900 00
Amount carried forward,		\$77,598 45

	Amount brought forward,	-	-	-	\$77,893 45
1748	Cyrus J. Person, work on force main line,	-	-	-	6 62
1749	J. W. & J. J. Newman, repairing streets, &c.,	-	-	-	557 44
1750	" " " " setting hydrants,	-	-	-	823 50
1751	Thomas Phillips & Co., tin lined pipe.	-	-	-	8,493 01
1752	J. W. & J. J. Newman, carting pipes,	-	-	-	737 90
1753	" " " " trenching, back filling and laying water pipes,	-	-	-	9,100 00
1754	Warren Foundry and Machine Co., on account of water pipes,	40,000	00		
1755	R. D. Wood & Co.,	"	"	"	10,000 00
1756	T. J. Hill, rent of wharf, -	-	-	-	250 00
1757	Fuller Iron Works, special castings, &c.,	-	-	-	822 11
1758	Hope " " valve boxes, -	-	-	-	3,032 03
1759	Builders' Iron Foundry, special castings, &c.,	-	-	-	1,045 58
1760	Henry R. Worthington, balance due for duplex pumping engine,	-	-	-	7,930 96
1761	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	339 77
1762	Warren Foundry and Machine Co., on account of water pipes,	7,184	05		
1763	Charles D. Ward, salary as principal assistant engineer,	250	00		
1764	Charles H. Pierce, " assistant engineer	250	00		
1765	Samuel M. Gray, " "	210	00		
1766	Charles H. Swan, " "	166	67		
1767	Otis F. Clapp, " "	181	45		
1768	Howard A. Carson, " "	166	67		
1769	William T. Schneider, " "	100	00		
1770	John E. Bowen, " "	83	33		
1771	Charles F. Jones, " "	100	00		
1772	Lucius J. Sampson, " student, engineering department,	41	67		
1773	George H. Slade, " " "	33	33		
1774	George T. Munro, " " "	33	33		
1775	Henry N. Francis, " " "	33	33		
1776	Leprilete Sweet, 2d, " " "	33	33		
1777	Edmund B. Weston, " " "	33	33		
1778	Mark Wilmarth, " " "	33	33		
1779	Louis R. Daniels, " " "	60	00		
1780	Herbert M. Lillibridge, " " "	20	16		
1781	Walter R. Jackson, " " "	25	00		
1782	Augustus F. Nagle, " mechanical engineer,	200	00		
1783	J. Rayner Edmands, " asst. " "	83	33		
1784	Daniel F. Waterman, " temporary asst. eng. dept.	25	40		
1785	Daniel C. Stone, " " " " "	21	90		
1786	Asa Sisson, " inspector of pipes,	125	00		
1787	Henry H. Brown, " sup't of pipe yards,	125	00		
1788	Andrew B. Purdy, " pipe work,	166	67		
1789	Samuel R. Eccleston, " inspector on pipe line,	108	00		
1790	Elbert Purdy, " " "	108	00		
1791	Foster S. Dennis, Jr., " " "	83	33		
1792	George Bowers, " " "	83	33		
1793	William H. Patterson, " " "	83	33		
	Amount carried forward,	-	-	-	\$171,184 64

	Amount brought forward,	\$171,134 64
1794	S. Horace Wheeler, salary as inspector of service pipes,	108 00
1795	Jesse E. Gray, " " " at reservoir,	103 00
1796	Burrows Chace, " " " "	115 00
1797	Thomas G. Bruce, " " " pumping engineer	125 00
1798	Joseph F. Plant, " " " night "	21 00
1799	John Hamilton, fireman, - - - - -	54 50
1800	Peter McCulloch, night fireman, - - - - -	12 50
1801	Peter O'Brien, " " " " - - - - -	60 00
1802	Thomas McDonald, axeman, and Sunday watchman,	58 00
1803	William Joyce, axeman, - - - - -	50 00
1804	Jeptha Baker, keeper of reservoir, - - - - -	75 00
1805	Charles H. Pierce, paid by him for sundries, - - - - -	187 00
1806	William T. Schneider " " labor at pumping station,	127 15
1807	" " " " and materials,	47 28
1808	Benjamin F. Gladding, labor at pumping station, - - - - -	92 30
1809	Freeborn Potter, wood for pumping station, - - - - -	10 88
1810	Daniel F. Burlingame, making tools at pumping station,	8 30
1811	Stephen B. Gardiner, delay in building fence on farm hired by him, - - - - -	60 00
1812	Asa Lyman, gravel, - - - - -	40 00
1813	Union Water Meter Co., water meters, - - - - -	2,323 40
1814	George H. Whitney, books, stationery &c., for engineering department, - - - - -	73 98
1815	J. C. Thompson, maps, - - - - -	15 00
1816	Robert F. Nicola, care of rooms, - - - - -	58 78
1817	Thomas C. Gushes, salary as commissioner's clerk - - - - -	66 66
1818	James B. Niver, salary as commissioner's clerk, - - - - -	16 67
1819	William M. Longstreet, salary as clerk, engineering department,	80 64
1820	William H. Turner, " " " " - - - - -	21 50
1821	Walter F. Slade, " " service pipe clerk, - - - - -	71 07
1822	Henry G. Deunis, " " inspector of pipe laying, &c,	108 00
1823	Charles H. Pierce, paid by him for labor at wharf, - - - - -	401 84
1824	M. D. Copeland, teaming, - - - - -	87 50
1825	W. S. Briggs, horse hire, engineering department, - - - - -	63 00
1826	Freeborn & Crowell, painting, - - - - -	11 88
1827	Tucker, Swan & Co., coal, - - - - -	41 99
1828	Schooner Manantico, on account of freight of water pipes, (charged to R. D. Wood & Co.,) - - - - -	250 00
1829	Frederic A. Arnold, salary as inspector of water fixtures,	51 62
1830	R. D. Wood & Co, on account of water pipes, - - - - -	4,198 63
1831	James MacDonald & Co., on account of construction of Sock-anosset reservoir, - - - - -	2,000 00
1832	J. W. & J. J. Newman, setting fire hydrants and extra gate boxes, - - - - -	745 00
1833	Benjamin F. Gladding, excavation, &c., - - - - -	750 00
1834	Charles H. West, exchange of wagon and harness, engineering department, - - - - -	155 00
1835	Thomas Phillips & Co., on account of laying service pipes,	2,000 00
	Amount carried forward,	\$186,082 21

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	\$186,062 31
1836	J. W. & J. J. Newman, hauling water pipes,	-	776 07
1837	" " " setting hydrants,	-	397 17
1838	" " " trenching, back-filling and laying water pipes,	-	12,600 00
1839	James MacDonald & Co, work on gate houses &c.,	-	261 24
1840	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Company,)	-	377 50
1841	George W. Lobdell, grading,	-	305 69
1842	George R. Robinson, relaying wood pavements	-	193 43
1843	Providence Steam and Gas Pipe Co., extra labor and materials,	2,329 73	
1844	Benjamin F. Gladding, excavation, &c.,	-	200 00
1845	Hope Iron Works, valve boxes,	-	834 84
1846	Builders Iron Foundry, special castings, &c.,	-	1,108 78
1847	Fuller Iron Works, " " "	-	1,104 91
1848	Warren Foundry and Machine Co., on account of water pipes,	-	9,441 65
1849	William Elsbree, repairing and cleaning streets, (charged to contractors for laying pipes,)	-	258 25
1850	William Elsbree, repairing and cleaning streets, (charged to contractors for laying pipes,)	-	234 97
1851	Fales, Jenks & Sons, hydrants, hydrant heads, hydrant boxes, stop valves, &c.,	-	25,175 97
1852	Providence Steam and Gas Pipe Co., on account of laying water pipes,	-	8,000 00
1853	William D. Andrews & Bro., drainage pump and engine,	-	2,490 00
1854	Providence Steam and Gas Pipe Co., trenching, back filling and laying water pipes,	-	2,572 11
1855	J. Herbert Shedd, salary as chief engineer,	-	1,500 00
1856	Charles H. Pierce, " " assistant engineer,	-	250 00
1857	Samuel M. Gray, " " " " "	-	250 00
1858	Charles H. Swan, " " " " "	-	166 67
1859	Otis F. Clapp, " " " " "	-	206 88
1860	Howard A. Carson, " " " " "	-	166 67
1861	William T. Schneider, " " " " "	-	100 00
1862	John E. Bowen, " " " " "	-	83 33
1863	Calvin F. Allen, " " " " "	-	25 00
1864	Charles F. Jones, " " service pipe engineer,	-	100 00
1865	William F. Jones, " " assistant " " "	-	50 00
1866	Augustus F. Nagle, " " mechanical " "	-	200 00
1867	J. Rayner Edmonds, " " assistant " " "	-	83 33
1868	Lucius J. Sampson, " " student engineering department,	-	41 67
1869	George H. Slade, " " " " "	-	41 67
1870	George F. Munro, " " " " "	-	33 33
1871	Henry N. Francis, " " " " "	-	33 33
1872	Lepriete Sweet, 2d, " " " " "	-	33 33
1873	Edmund B. Weston, " " " " "	-	33 33
1874	Mark Wilmarth, " " " " "	-	33 33
1875	Louis R. Daniels, " " " &c., " "	-	50 00
1876	Walter B. Jackson, " " " " "	-	25 00
1877	Edwin P. Dawley, " " " on trial " "	-	5 00
	Amount carried forward,	-	\$258,143 03

	Amount brought forward,		\$268,143 03.
1878	Daniel D. Waterman, salary as temporary office assistant, engineering department,		29 60
1879	Daniel C Stone, salary as temporary office assistant engineering department,		21 90
1880	Walter F. Slade, salary as service pipe clerk, engineering department,		66 67
1881	William M. Longstreet, salary as clerk, engineering department,		100 00
1882	William H. Turner,	" " " "	83 33
1883	Robert Knight,	" " " "	46 67
1884	Henry H. Brown,	" " superintendent of pipe yard,	125 00
1885	Andrew B. Purdy,	" " of pipe work,	166 67
1886	Henry G. Dennis,	" " inspector on pipe line,	100 00
1887	Samuel R. Eccleston,	" " " "	100 00
1888	Elbert Purdy,	" " " "	100 00
1889	Foster S. Dennis, Jr.,	" " " "	83 33
1890	George Bowers,	" " " "	83 33
1891	William H. Patterson,	" " " "	83 33
1892	S. Horace Wheeler,	" " of service pipes,	116 00
1893	Arthur M. Black,	" " " "	112 00
1894	Jesse E. Gray,	" " at reservoir,	135 00
1895	Burrows Chase,	" " " "	130 00
1896	Jephtha Baker,	" " keeper of " "	77 50
1897	Thomas G. Bruce,	" " pumping engineer,	125 00
1898	John Hamilton,	" " fireman,	69 20
1899	Peter McCulloch,	" night " "	41 25
1900	Peter O'Brien,	" watchman,	62 00
1901	Thomas A. McDonald, axeman and Sunday watchman, &c.,		60 00
1902	Michael Tallant, axeman,		25 00
1903	Charles H. Pierce, paid by him for sundries,		187 78
1904	" " labor at wharf,		380 02
1905	William T. Schneider,	" " and materials,	29 90
1906	" " at pumping station,		55 20
1907	Benjamin F. Gladding, labor at pumping station,		55 38
1908	Robert F. Nicola, care of rooms,		32 62
1909	Nathaniel A. Fisher, salary as inspector of water fixtures,		25 80
1910	Frederic A. Arnold,	" " " "	66 67
1911	Thomas H. Carrique,	" commissioners' clerk,	116 13
1912	Thomas C. Gushee,	" " " "	66 67
1913	Clinton D. Sellew,	" secretary of the water com'rs,	166 67
1914	Estate of Moses B. Lockwood, deceased, salary as water commissioner,		500 00
1915	Joseph J. Cooke,	salary as water commissioner,	500 00
1916	Charles E. Carpenter,	" " " "	500 00
1917	William Corliss,		208 79
1918	Marshall Woods, rent of offices,		525 00
1919	George H. Whitney, books, stationery, &c.,		12 42
1920	" " " " eng'ng dep't,		40 41
1921	Hammond, Angell & Co., printing,		26 25
1922	Tuttle & Hobbs, horse keeping, &c., engineering department,		80 15
	Amount carried forward,		\$268,861 67

	Amount brought forward,	-	-	-	\$263,861 67
1923	William S. Briggs, horse hire, by engineers,	-	-	-	89 00
1924	M. D. Copeland, teaming,	-	-	-	94 50
1925	John A. Moore, lumber, sawing &c.,	-	-	-	109 45
1926	John A. Salisbury, repairing derrick,	-	-	-	50 09
1927	Dexter Gorton & Co., carpenter's work, &c.,	-	-	-	332 41
1928	" " " " " "	-	-	-	56 59
1929	Albert F. Allen, hydrants for street sprinklers, &c.,	-	-	-	772 31
1930	George W. Hall & Co., drain tile,	-	-	-	43 00
1931	Union Water Meter Co., water meters,	-	-	-	2,482 10
1932	William M. Holloway, building culvert,	-	-	-	300 00
1933	Providence Gas Co., gas,	-	-	-	22 20
1934	" " rent of wharf,	-	-	-	175 00
1935	Corliss Steam Engine Company, for engineer,	-	-	-	144 15
1936	Barker, Whitaker & Co., tools &c.,	-	-	-	156 89
1937	Asa Sisson, salary as pipe inspector,	-	-	-	125 00
1938	R. D. Wood & Co., on account of water pipes,	-	-	-	2,848 61
					<u>\$271,682 97</u>

RECEIVED FROM APRIL 1, 1872, TO JUNE 29, 1872, IN-
CLUSIVE, AND PAID TO THE CITY TREASURER.

1872.

April	1,	Of Thomas Hannay, for grapery and conservatory, on estate purchased of Miss Julia Bullock,	-	-	\$225 00
"	19,	Of Mrs. Julia O'Loughlin, for balance due for dwelling house on lot No. 165, on the Halsey plat No. 2, to be removed,	-	-	850 00
"	26,	Of Kendall M'fg Co., for labor and materials,	-	-	64 77
"	27,	Of Fuller Iron works, " "	-	-	100 06
May	5,	Of James Y. Smith M'fg Co., " "	-	-	99 60
"	21,	Of Providence and New York Steamship Co., for labor and materials,	-	-	126 26
"	24,	Of Thomas Hannay, for three months rent of estate purchased of Miss Julia Bullock, to 1st June, proximo,	-	-	75 00
"	29,	Of Fuller Iron Works, for labor,	-	-	10 00
June	3,	Of George H. Burnham, for net amount of sale of house on Olney street, to be removed,	-	-	1,283 20
"	4,	Of Burrows Chase, for three months rent of farm in Warwick, purchased of Miss Patience W. Chace, to April 1st, 1872,	-	-	43 75
"	8,	Of Thomas Hannay, for fence on estate purchased of Miss Julia Bullock,	-	-	25 00
"	15,	Of Alexander Duncan, for labor and materials,	-	-	10 74
"	17,	Of William G. Pierce, for labor and materials,	-	-	48 32
		Amount carried forward,	-	-	<u>\$2,961 70</u>

	Amount brought forward,	-	-	-	-	\$2,961 70
June 17,	Of James A. Potter, for cracked pipes,	-				53 62
" 22,	Of Joseph J. Cooke, for labor and materials, -					29 59
" 24,	Of William Elsbree, for six months rent of a portion of the "Aldridge Farm," to March 25, 1872, -					62 50
" 24,	Of Nathaniel Grant, for labor and materials, -					17 66
" 25,	Of David Hinnegan, for old straw, -					6 06
" 26,	Of Eugene Higgins agent, for laying water pipes,					125 00
" 28,	Of Stafford & Co., for six months rent of Pawtuxet Mill to July 1st, 1872, -					500 00
" 29,	Of City of Providence, for cost of fixtures for jet d'eau for water celebration, -					180 72
" 29,	For water meters during the last quarter, -					4,714 00
" 29,	For water during the last quarter, -					12,366 89
						<hr/> \$21,017 74

TRIAL BALANCE OF LEDGER, JUNE 29, 1872.

DR.

Hope reservoir, for land,	-	-	\$123,411 80
Sockanosset Reservoir, for sundries,	-	-	87 19
" " land,	-	-	16,071 35
" " construction,	-	-	172,000 00
" " watch,	-	-	437 50
" " gate houses,	-	-	79 22
" " drain,	-	-	1,498 84
" " inspection,	-	-	6,459 18
" " extra work and materials,	-	-	31 46
" " gate chambers,	-	-	9,686 66
Line of leading mains, for labor and materials,	-	-	19,265 79
" " extra trenching, &c.,	-	-	305 95
" " land and damages,	-	-	1,165 00
Force main line, for land and damages,	-	-	3,006 35
" " labor and materials,	-	-	5,099 28
" " extra trenching, &c.,	-	-	332 56
Office furniture, stoves, gas fixtures, &c.,	-	-	699 08
Rent of offices,	-	-	1,787 50
Books, stationery, &c.,	-	-	511 59
Fuel and lights,	-	-	199 39
Horse hire by commissioners,	-	-	19 00
Janitor of rooms,	-	-	261 00
Travelling expenses of commissioners,	-	-	122 62
Clerks salaries,	-	-	2,304 71
Commissioners' salaries,	-	-	16,708 79
Secretary's salary,	-	-	188 67
Sundries	-	-	198 78
Printing,	-	-	1,082 59
Advertising,	-	-	1,283 08
Fences,	-	-	2,060 38
Stop Valves,	-	-	33,471 70
Store House and Work Shop,	-	-	749 06
Tools,	-	-	4,289 58
Labor on pipes,	-	-	8,141 84
Rent of wharves and pipe yards,	-	-	2,346 09
Cast iron water pipes,	-	-	350,580 57
Special castings,	-	-	55,190 32
Linking curved pipes,	-	-	232 75
Lumber,	-	-	1,407 94
Fire hydrants,	-	-	20,685 00
Sockanosset hill cross road,	-	-	3,689 50
Pettaconset and Sockanosset telegraph line,	-	-	1,156 56
Amount carried forward,	-	-	\$1,384,254 27

Amount brought forward,	-	\$1,384,254 27
Dwelling houses at Pettaconset,	-	3,625 42
Culverts and bridge on line of force mains,	-	6,775 33
" at Pettaconset,	-	1,003 81
Real estate in Warwick,	-	13,110 04
Water privileges, mill and other real estate in Pawtuxet,	-	50,231 96
Pettaconset pumping station for land,	-	1,270 50
Pochasset Bridge,	-	5,509 72
Wharf salaries,	-	3,028 00
Temporary engine house at Pettaconset,	-	8,330 63
Engine house at Pettaconset,	-	872 86
Natural filter basin,	-	790 83
Roads, slopes, &c., at Pettaconset,	-	6,506 03
Removing loam,	-	328 96
Iron screw piles,	-	2,668 89
Hydrant bolts,	-	566 90
Pipe bolts,	-	896 30
Photographs,	-	135 00
Hydrant heads,	-	4,797 91
Taps and stops,	-	4,712 06
Valve covers,	-	3,686 44
Service pipe,	-	9,347 37
Hydrant boxes,	-	10,954 70
Setting fire hydrants,	-	3,452 51
Valve boxes,	-	19,282 40
Check valves,	-	1,412 48
Air cocks, boxes, covers, and setting,	-	465 00
Night and Sunday watch at engine house,	-	584 50
Pettaconset pumping station, for sundries,	-	1,438 07
" " " engineer,	-	978 65
" " " coal and wood,	-	1,661 86
" " " labor on fuel,	-	100 33
" " " fireman,	-	538 55
Setting blow-offs	-	265 66
Freeborn Johnson & Co.,	-	3,500 00
Builders Iron Foundry,	-	6,893 01
John W., and James J. Newman,	-	65,600 00
Benjamin F. Gladding,	-	5,750 00
Town of Cranston,	-	5,000 00
William M. Holloway,	-	300 00
A. & W. Sprague Mfg. Co.,	-	2,500 00
Thomas Phillips & Co.,	-	2,378 64
City of Providence, drinking fountains,	-	147 27
" " highway department,	-	9,500 00
George Harris,	-	10 74
City Treasurer,	-	18,600 78
Testing pipe iron,	-	258 50
Iron drain pipes and gate,	-	224 21
Amount carried forward,	-	\$1,674,392 16

REPORT OF THE WATER COMMISSIONERS.

31

Amount brought forward,	-	\$1,674,292 16	
Carting pipes,	-	19,011 39	
Counsel fees,	-	1,500 00	
Inspection of pipes,	-	5,970 80	
Testing bolts and composition castings,	-	34 25	
Laying service pipes,	-	510 00	
Inspection of pipe laying,	.	10,041 00	
" water fixtures,	.	432 09	
Laying water pipes,	.	111,573 27	
" suction pipes. &c.,	.	85 00	
Drainage pump and engine,	.	2,523 86	
Hydrants for street sprinklers,	.	772 31	
Water meters,	.	8,367 25	
Worthington pumping engine,	.	35,522 33	
City Treasurer, for water payments,	.	19,834 77	
Atlantic De Laine Co.,	.	119 70	
		<hr/>	\$1,890,589 18

ENGINEERING DEPARTMENT—

For Instruments,	.	\$1,890 22	
Tools,	.	467 59	
Furniture, stoves, gas fixtures, &c.,	.	1,735 34	
Books, stationery, &c.,	.	1,660 98	
Labor,	.	2,978 34	
Draughting,	.	3,604 77	
Horse and wagon account,	.	1,033 45	
Horse keeping, shoeing, &c.,	.	864 51	
Horse hire,	.	1,364 90	
Rent of offices,	.	2,723 64	
Fuel and lights,	.	475 47	
Janitor of rooms,	.	480 18	
Experimental filter,	.	91 08	
Sundries,	.	1,250 80	
Test wells,	.	1,579 40	
Consultations,	.	320 00	
Office building at Pettaconset,	.	553 21	
" " Sockanoeset reservoir,	.	563 23	
Stakes and strips,	.	547 45	
Printing,	.	100 28	
Maps,	.	86 67	
Service pipe experiments,	.	295 76	
Salaries,	.	62,596 62	
Temporary assistance,	.	6,130 52	93,353 40
		<hr/>	<hr/>
Amount carried forward,	.		\$1,983,942 58

Amount brought forward,

\$1,983,942 58

CR.

Hope reservoir, for land, (rents received, and buildings &c., sold,)	3,418 20	
Sockanosset reservoir, for land, (rents re- ceived, and wood &c., sold,)	1,328 49	
Real estate in Warwick, (rents received,)	231 25	
Water privileges &c, in Pawtuxet, (rents received,)	1,739 53	
Pettaconset pumping station for land, (do. do.)	218 75	
James MacDonald & Co.,	2,496 83	
Warren Foundry and Machine Co.,	11,769 74	
R. D. Wood & Co.,	17,450 00	
Fuller Iron Works,	1,690 00	
Fales, Jenks & Sons,	8,550 00	
Interest,	54 66	
Water Meters,	5,899 20	
Approved bills,	1,909,261 16	
Water,	19,434 77	
	<hr/>	\$1,983,942 58

1872-73.

CITY DOCUMENT.

No. 27.

TWELFTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

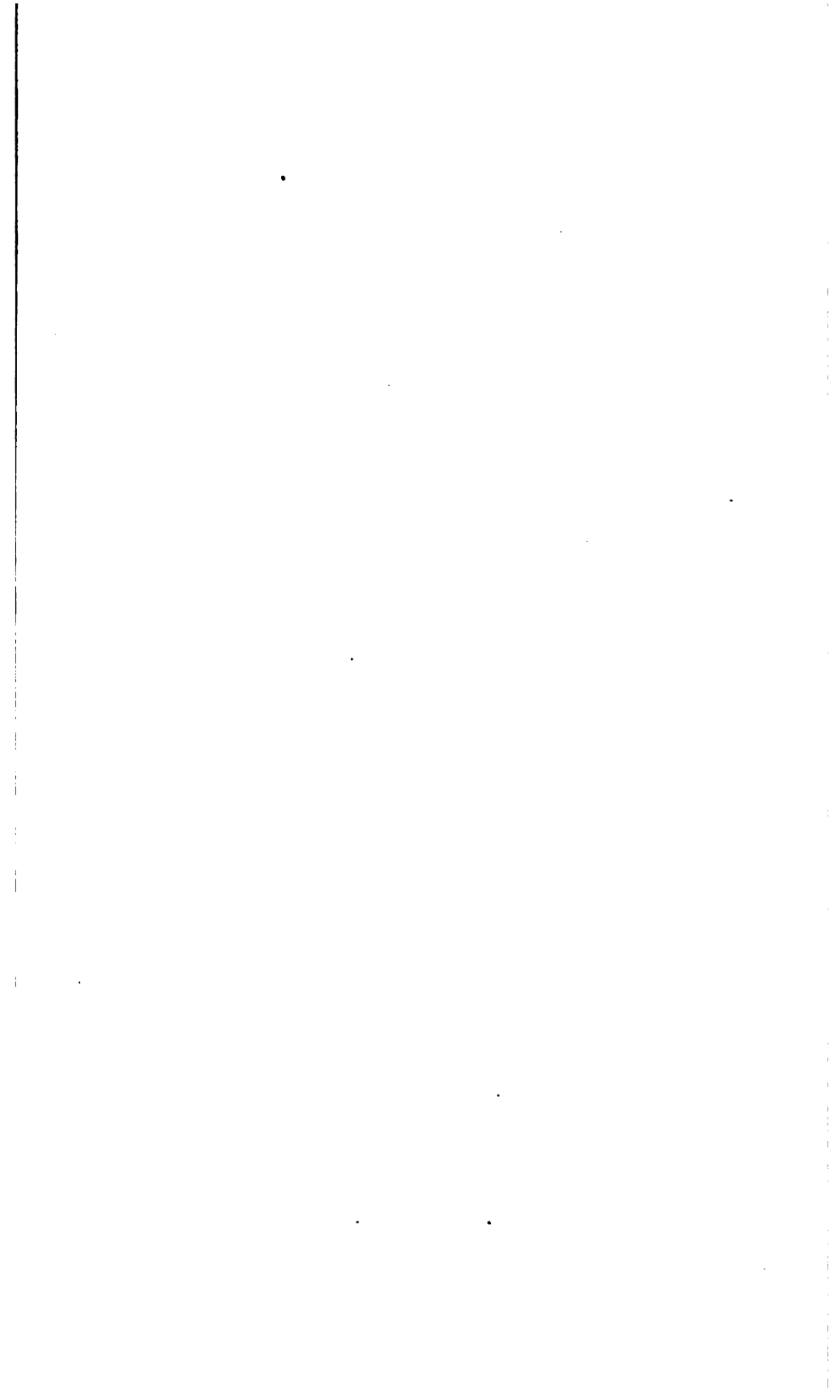
OF THE

CITY OF PROVIDENCE,

OCTOBER 1, 1872.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1872.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

SECRETARY OF THE WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main street.

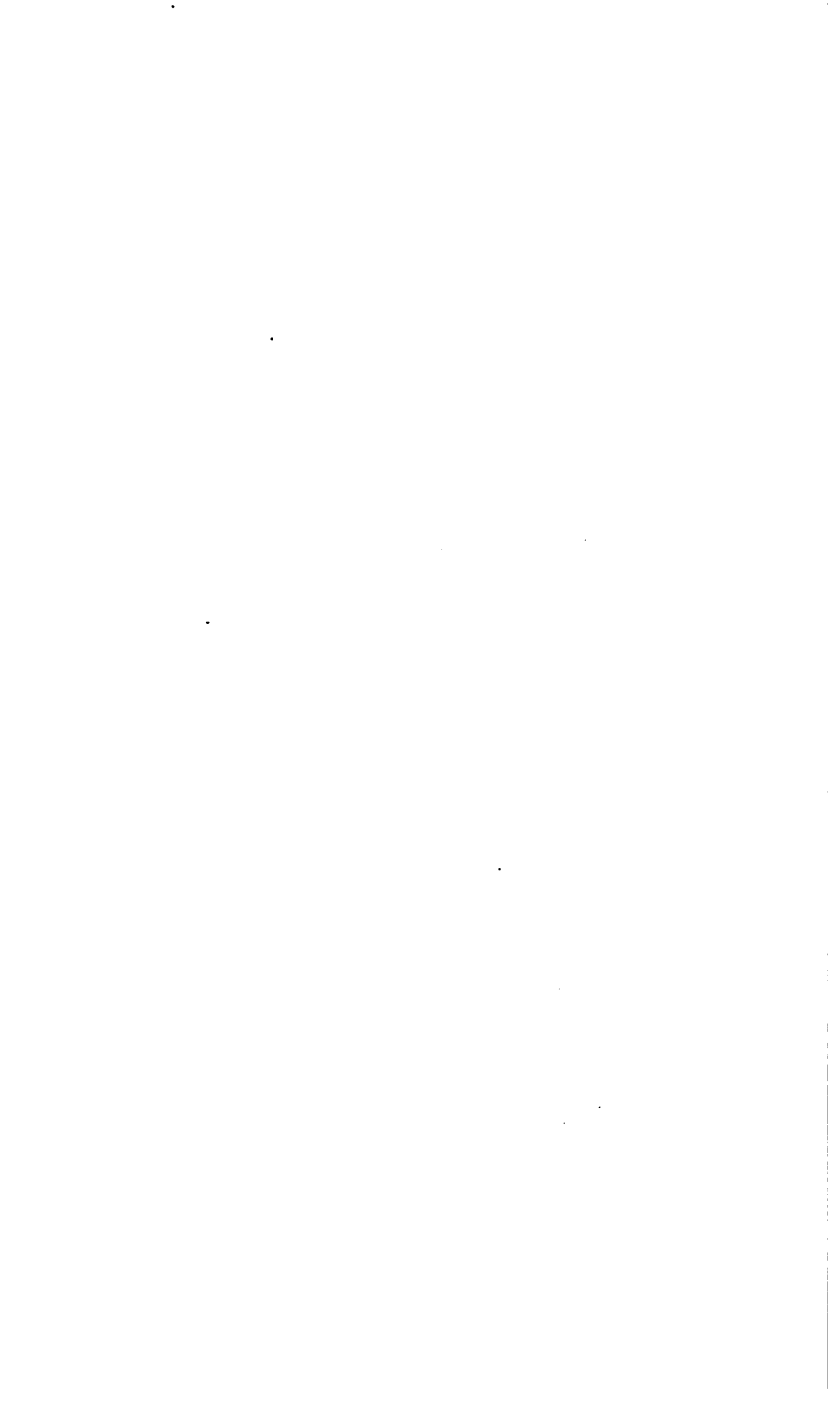
CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main street.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
Providence, October 1st, 1872.

TO THE HONORABLE THE CITY COUNCIL :—

The undersigned, Water Commissioners, respectfully present their Twelfth Quarterly Report :—

The Commissioners' term of office, which would otherwise have expired on the 27th day of September, ultimo, was, by an Ordinance of the City Council, authorized by an Act of the General Assembly, and approved September 9, 1872, extended to July 1, 1873.

Thomas H. Carrique resigned the position of book-keeper, July 2d. His resignation took effect July 5th.

John S. Kellogg assumed the duties of book-keeper, July 30th, and relinquished them September 14th, having entered into business on his own account.

Philip S. Chase, who had been appointed book keeper, with a salary of twelve hundred dollars per annum, entered upon his duties September 16th.

Joshua B. Chapin was appointed "Agent of the Commissioners, for the month of September, 1872, to ascertain the nature and source of all impurities which are deposited in or near the Pawtuxet River or either of its branches."

A contract, dated July 12th, has been executed with Hiram S. Read and Charles L. Richards, for the mason's work of Hope Engine House, (the Commissioners furnishing the materials,) for the sum of ninety-nine hundred and ten dollars, (\$9,910.)

A contract, dated August 15th, has been executed with the Warren Foundry and Machine Co., of Phillipsburg, N. J., for furnishing cast iron Water Pipes, as follows :—

120 tons of	2240 lbs.,	8 inches	in diameter,	at	\$72,70
300 “	“ “	12 “	“ “	at	\$71,17
350 “	“ “	16 “	“ “	at	\$71,20

An offer by the Builders Iron Foundry, of this city, to furnish two hundred or three hundred (as the Commissioners might elect,) coated Valve Covers, at four cents per pound, was accepted July 31st.

Two hundred and seventy coils, (about 46,000 lbs.) Tin Lined Lead Pipe, was ordered of Thomas Phillips & Co., July 29th, at $13\frac{3}{8}$ cents per pound, delivered. The price has since advanced two cents per pound.

The Chief Engineer having certified to the completion of James MacDonald & Co.'s contract for the construction of Sockanosset Reservoir, their bill, for the balance due for the work, was approved August 3d.

The Commissioners and the Engineering Department removed, August 13th, to Breck's Building, No. 35 North Main street, the second and third stories of which the Commissioners had hired, for two years, at three thousand dollars per year, including steam heat. The rooms are found, by experience, to be well adapted to their use.

The water in Sockanosset Reservoir has been gradually increased to its present depth of 11,71 feet at the inlet chamber, which is 3,29 feet less than will be its depth when full. The

erection of gate-houses and the clearing of the grounds around the reservoir, remain to be done.

The Natural Filter Basin at Pettaconset has been excavated to the water line and a drainage pump and engine have been placed, in readiness to pump out water so as to allow the excavation to continue.

Rapid progress is now making in the erection of the Engine House at Hope Pumping Station. The first engine for this station is now constructing by George H. Corliss.

No progress has been made in the plans for Hope Reservoir since the last report.

Doctor J. B. Chapin, who for the last month has acted as Agent of the Commissioners in ascertaining the source and nature of all impurities which are deposited in or near the Pawtuxet river or either of its branches, has made an extensive investigation. He reports that, with two or three unimportant exceptions, he was received with uniform courtesy, and the best disposition was manifested to coöperate in such measures as might be deemed advisable, to secure purity in the streams which supply water for the use of the city. The following extract is made from his report:

"It is gratifying to learn that the *natural* supply of water from the Pawtuxet river is remarkably free from impurities. Several causes contribute to this.

1st. The river drains a very little marshy or alluvial soil. I was surprised to find how little.

2d. Its flow is quite rapid through a large part of its course, passing over sand, and tumbling and foaming over a rocky bed.

3d. The water in many of its tributaries is as colorless and cold as that of any mountain stream. I had no idea there were such streams in our State. I drank of the water of several of

them and found it nearly as cool as iced-water and of Alpine purity. Our city may well be congratulated that it has secured such a source for present and future supply."

Section 7 of the Act of the General Assembly, entitled "An Act for supplying the city of Providence with pure water," (chapter 640) provides :

" If any person shall maliciously or wantonly divert the water of any of the said streams, or water sources from which water shall be introduced into said city as aforesaid, or shall corrupt or render impure the same, and any connected therewith, or shall destroy or injure any drain, pipe, aqueduct, conduit or machinery or other property used in or relating to the premises, such person or persons, and his or their aiders or abettors shall each forfeit to said city, to be recovered in an action of trespass, or trespass on the case, treble the amount of damage which shall appear on trial to have been sustained thereby and shall also be liable to indictment therefor, and upon conviction shall be fined not exceeding five thousand dollars, or imprisoned not exceeding three years."

The Commissioners, on the 28th day of September ultimo, adopted the following resolution :

" **RESOLVED**, That Joshua B. Chapin is hereby appointed Agent of the Water Commissioners, for the month of October, on the same terms as were agreed upon for his services for the month of September, personally to make known to all persons whose business or other pursuits tend to defile the Pawtuxet river or its tributaries, above Pettaconset Pumping Station, the intention of the Commissioners to cause the abatement of all nuisances and to see that such nuisances *are* actually abated,—reporting to the Commissioners from time to time any case which may seem to require legal proceedings."

The Commissioners also intend to issue, immediately, posters to be sent into all the villages located on the Pawtuxet and its tributaries, cautioning all persons against polluting the stream,

and offering a reward for information which shall result in the conviction of any person who shall "maliciously or wantonly" throw into the stream any dead animal or animal substance or other foul matter.

Six Plumber's licenses have been issued since the last report, as follows :

To John H. Russell.

" Charles L. Potter.

" Thomas E. White.

" William Barbour, for William Barbour & Co.

" Ira Winsor, " Wood & Winsor.

" James Barbour, " Barbour & Heathcote.

Making the total number of Plumber's licenses issued to date, thirty-two.

The following statement shows the length of pipe laid during the last quarter ; the sizes of the pipes ; where laid, and the totals from the commencement of the work :

30 INCH.

In Eddy, Greenwich and Public streets and Reservoir avenc,	-	-	-	-	8,751 feet.
Including 7 cut pipes, 13 branches, 3 curved pipes, 2 gates, 1 man-hole, 1 blow-off and 1 sleeve.					
Previously,	-	-	-	-	30,485 feet.
Total,	-	-	-	-	<u>34,236 feet.</u>

24 INCH.

In Broadway and Olney street,	-	-	-	-	1,229 feet.
Including 1 cut pipe and 8 branches.					
Previously,	-	-	-	-	15,444 feet.
Total,	-	-	-	-	<u>16,673 feet.</u>

16 INCH.

In Smith and Wickenden streets,	-	-	2,788 feet.
Including 10 cut pipes, 23 branches, 4 curved pipes, 2 gates and 5 sleeves.			
Previously,	-	-	6,867 feet.
Total,	-	-	9,150 feet.

12 INCH.

In Atwell's Avenue and Hope and Prospect streets,	-	-	854 feet.
Including 7 cut pipes, 18 branches, 4 curved pipes and 2 sleeves.			
Previously,	-	-	6,805 feet.
Total,	-	-	7,159 feet.

10 INCH.

In Charles street,	-	-	1,727 feet.
Including 4 cut pipes, 7 branches, 2 gates and 2 bevel-hubs			
Previously,	-	-	4,018 feet
Total,	-	-	5,745 feet.

8 INCH.

In Almy, Blackstone, Bleachery, Brook, Congress, Crescent, Davis, Holden, Meeting, Plane, Prospect, and Valley streets, Broadway, and Prairie Avenue,	-	-	5,187 feet.
Including 42 cut pipes, 29 branches, 7 curved pipes, 2 bevel-hubs, 13 gates, 3 reducers, and 1 sleeve.			
Previously,	-	-	32,539 feet.
Total,	-	-	37,726 feet.

6 INCH.

In Almy, Angell, Ann, Arnold, America, Bowen, B, Barnes, Blackstone, Branch, Brighton, Brook, Bucklin, Canal, Carpenter, Cedar, Cooke, Common, Congdon, Courtland, Charles, Crary, Dexter, Dike, Eagle, East, Eddy, Field, Front, Grant, Halsey, Hayward, High, Hope, Hospital, Hudson, India, Jefferson, Jewett, John, Kenyon, Lexington, Mashapaug, Oak, Olive, Olney, Pierce, Prince, Prospect, Park, Parade, Randall, Rhodes, Ringgold, Sheldon, State, South Water, Thayer, Transit, West Exchange, and Wood streets, Broadway, Prairie Avenue, for Reform School from East street, for Paine & Sackett's Mill from Eagle street, for Hill's Machine shop from Eddy street, for Friends' Boarding School and for Dexter Asylum from Hope street, for Furniture Factory on Crary street, for Harrison Mill and Weybosset Mill from Dike street and in Alley east of Butler's Exchange, - - 51,567 feet.

Including 359 cut pipes, 222 branches, 49 curved pipes, 28 bevel-hubs, 131 gates, 1 sleeve and 6 reducers.

Previously, - - - - 157,568 feet.

Total, - - - - 209,135 feet.

Total of all sizes during the last quarter, 67,098 feet.
or 12.71 miles.

Previously, including 36 inch and 20 inch, of which none have been laid during the last quarter, 268,787 feet.

Total, - - - - 880,865 feet.
or 62.66 miles.

One hundred and fifty Fire Hydrants have been set since the date of the last Quarterly Report ; one in each of the following locations :—

Almy street,	north-east corner of Ring street.
“ “	south-east “ Meader “
America “	north “ Kenyon “
Angell “	north side, in line with east side of Brook street.
“ “	“ “ 210 feet west of Thayer street.
“ “	“ “ west corner of Brown “
“ “	“ “ east “ Congdon “
Arch “	“ “ about 220 feet east of Gilmore street.
Arnold “	north-west corner of Hope street.
“ “	“ “ “ Brook “
Atwell's avenue,	north side, in line with east side of Ridge street.
B street,	east side, 100 feet north of Central street.
“ “	north corner of Parkis street.
Barnes street,	north side, half way between Brown and Thayer streets.
Beacon street,	south-west side, about 100 feet north-west of Pine street.
Benefit street,	north-west corner of College street.
“ “	south-east “ Transit “
Benevolent street,	south-east corner of Benefit street.
Bowen “	north-east “ Thayer “
Branch “	west side, about 165 feet south of High street.
Bridgham street,	east side, in line with south side of Durfee street.
Brighton street,	north side, about half way between Knight and Courtland streets.
Broad street,	south corner of Claverick street.
“ “	south side, opposite east corner of Snow street.
Broadway,	north side, in line with east side of Howard street.

Broadway,	north side, about 275 feet east of Harris Avenue.
“	north-east corner of Harris Avenue.
Brown street,	north west corner of Barnes street.
Canal “	south-east “ Otis “
“ “	south-east corner of Bowenstreet.
“ “	east side, about 175 feet south of South street.
“ “	north-east corner of Allen’s Lane.
“ “	south “ “ Linard street.
“ “	north “ “ Drown “
“ “	east side, about 75 feet south of Steeple street.
Cedar “	north-east corner of Brayton Avenue.
Charles “	“ west “ “ Martin street.
“ “	west “ “ Tremont “
“ “	south-west side, in line with west side of West River street.
“ “	north-west corner of Ormastreet.
“ “	west side, about 400 feet south of Orms street (at north-west corner of a gangway.)
“ “	west side, about 360 feet north of Smith street.
Charles Field street,	south side, about 200 feet east of Brown street.
“ “	“ south side half way between Benefit and Brown street.
Claverick	“ west corner of Clifford street.
Clifford	“ “ “ “ Page “
“	“ north-west side, about 150 feet south-west of Richmond street.
Common	“ east side, about half way between Jefferson and Carroll streets.
Congdon	“ north-east corner of Meeting street.
“	“ east-side, half way between Cushing and Bowen street.

Cooke street,	south-east corner of Manning street,
“ “	“ “ “ “ Waterman “
“ “	“ “ “ “ Angell “
“ “	east side, 98 feet south of Young Orchard Avenue.
Courtland “	north-west corner of Ring street.
Cushing street,	south-east corner of Thayer street.
Davis “	west side, in line with north side of Field street.
Dike “	south “ about 180 feet west of Norfolk street.
Dike “	south-east corner of Valley street.
Dyer “	“ west “ Custom House street.
“ “	north “ “ Clifford “
“ “	west side, 224 feet north of Ship “
East “	north-west corner of Front street.
Eddy “	“ “ “ “ Blackstone “
“ “	west side, about 90 feet south of Rhodes street.
“ “	“ corner of Middle street.
“ “	north-east “ “ Fulton “
“ “	“ “ “ Richmond street.
Elm “	east “ “ Butler “
“ “	south-east “ “ Richmond “
Exchange Place,	south corner “ Exchange “
Friendship street,	north-west corner of Dyer “
“ “	west side, 150 feet south of Richmond street.
Friendship “	south corner of Foster street.
Greenwich “	west side, about 50 feet north of Earl street.
“ “	south-west corner of Cromwell street.
Harris Avenue,	at junction with Atwell's Avenue.
Hayward street,	north corner of Pearl street.
High “	south-east “ “ Valley “
“ “	north “ “ “ Courtland “

High street,	west, corner of Edward street.
“ “	north-west “ “ Howard “
“ “	north-east “ “ Almy “
“ “	north side, opposite Norfolk “
“ “	“ “ east corner Lafayette street.
Hope “	south-west corner of Barnes “
Hospital “	north-west “ Langley “
“ “	west side, in line with south side of Elbow street.
India street,	north-west corner of Brook street.
“ “	north-east “ “ Watson “
“ “	north side, 160 feet west of Ives “
“ “	north-west corner of Hill “
“ “	north-east “ “ Furnace “
“ “	north side, about 150 feet east of Gano street.
Jefferson “	west side, about 65 feet north of Liberty street.
John “	north side, about half way Brook and Hope street.
Keene “	south-east corner of Thayer street.
Mulberry “	“ “ “ “ Common “
North Main “	west side, about half way between Mill and Benefit streets.
“ “ “	north-west corner of Randall street.
“ “ “	south-west corner of Cady “
“ “ “	“ “ “ “ Church “
“ “ “	“ “ “ “ Green’s Lane.
“ “ “	west side, “ “ Canal Avenue.
Olney “	north side, in line with east side of Pratt street.
“ “	north side, in line with west side of Prospect street.
Park “	east side, opposite north line of West Park street.
“ “	“ “ about 100 feet south of Brownell street.

Park street,	east side, opposite north line of Beach street.
“ “	north-east corner of Promenade “
Pierce “	north side, about half way between Marshall and Courtland streets.
Point “	north-west corner of Beacon street.
“ “	north side, in line with west side of Manchester street.
Pond “	south side, about half way between Spring and Winter streets.
Prospect “	north-east corner of Angell street.
Providence“	north-west “ “ Prairie Avenue.
Randall “	north-east side, in line with south-west side of Printery street.
“ “	“ “ “ on north-east side of the Canal.
Rhodes street,	south side, about 225 feet west of Eddy street.
“ “	“ “ about 150 feet east of Plane street.
Ringgold “	west side, about half way between Broadway and Kenyon street.
“ “	“ “ about 185 feet south of Broadway
Sheldon “	north-west corner of Brook street.
“ “	north side, about half way between Brook and Hope streets.
Sheldon “	north-west corner of Hope street.
Smith “	south side, opposite east line of Jefferson street.
“ “	south side, about 120 feet west of Canal street.
“ “	west corner of Wood's Avenue.
“ “	south-east corner of Park street.
South “	north-west “ “ Chestnut “
South Main street,	north-east corner of James street.
“ “ “	“ “ “ “ Power “
“ “ “	“ “ “ “ Crawford street.

South Main street, east side, about 80 feet north of Hopkin street.

South Water " south-east corner of Sovereign street.

" " " " " " " " Dollar "

" " " east side, about half way between Transit and James streets.

State street, west side, about 280 feet north of Smith street.

Summer " north-east side, about half way between Meadow and Conduit streets.

" " east corner of Pond street.

Thayer " " " in line with North side of Olive street.

Transit " north side, about half-way between Brook and Hope streets.

West Exchange street, north side, about 168 feet west of Bradford street.

Weybosset street, east corner of Orange street.

" " north-east corner of Dunnell Gangway.

Wickenden " north-west " " East street.

" " south side, about half way between Traverse and Brook streets.

" " south side, about 159 feet west of Brook street.

" " south-east corner of Ann street.

Williams " " " " " Benefit "

The total number of Fire Hydrants is now four hundred and fifty.

Three hydrants have also been set for use in filling sprinkling carts, etc. The number of such hydrants, all of which can be used with a single line of hose for extinguishing fires, is now eighteen.

Two hundred Union Water Meters have been put in since the date of the last report, at the expense of water takers. There are four hundred and thirty-six now in use, viz:

329 five-eighths inch.

64 three-quarters inch.

27 one inch.

14 one and one-half inch.

2 two inch.

486

The total number of applications for a supply of water is twenty-four hundred and ninety-one.

The number of service stops opened during the last quarter is seven hundred and thirty-two.

The total number of service stops opened to date is fifteen hundred and eighty-nine.

Water has been shut off in two instances for non-payment of bills. In both cases the bills were immediately paid with two dollars additional in each for letting on the water.

Water has also been shut off in three cases for infraction of the rules, and again let on, on payment in each case of two dollars.

Water is now supplied for the following uses :

1 bakery ; 17 banks ; 18 bar rooms ; 1 bath—Turkish ; 33 boarding houses ; 3 bottling establishments ; 30 building purposes ; 2 carriage depositories ; 1 Childrens' Friend Society ; 1 Christian Union ; 5 churches ; 1 city building ; 1 city drinking fountain ; 1 city drinking trough ; 7 city fire steamer stations ; 3 club rooms ; 9 coal yards ; 1 distillery ; 713 dwellings of one family ; 344 dwellings of two families ; 17 dwellings of three families ; 32 dwellings of four families ; 8 dwellings of five families ; 5 dwellings of six families ; 1 dwelling of seven families ; 2 dwellings of eight families ; 2 dye houses ; 1 dyeing, bleaching and calendering company ; 1 express carriage

house; 450 city fire hydrants; 21 fountains—private; 1 Furrier; 805 garden and street hydrants; 1 gas fixtures; 4 gold and silver platers; 3 gold and silver refiners; 1 grain elevator; 12 green houses; 3 Halls; 1 Hall of Latter day Saints; 1 Home for Aged Women; 9 hotels; 2 lodging houses; 2 lumber dealers; 7 machinists. Manufacturing Establishments,—1 blank book; 1 bologna sausage; 1 box; 1 braiding works; 1 brass foundry; 1 brewery; 1 brush; 1 butt; 3 carriage; 2 cigar; 1 cigar box; 2 confectionery; 1 corset; 3 colorers of jewelry; 4 cotton; 1 crocus; 2 dye sinkers; 1 dye wood; 1 eyelet; 2 file; 2 furniture; 1 gas; 1 gas burners; 1 geers; 1 harness; 1 horse shoe; 2 ice cream and soda water; 1 iron company; 1 iron fence; 6 iron foundries; 57 jewelry; 8 lapidaries; 1 nail keg; 2 oil; 1 organ; 2 paper box; 1 paper collar; 1 paper cop tube; 1 pattern; 3 patent medicines; 2 pump; 1 reed; 1 rubber tubing; 2 sash and blinds; 1 screw; 2 shirt; 2 silver ware; 4 soap; 1 spiral spring; 1 steam boiler; 1 steam engine; 1 stove; 1 tin; 4 tool; 1 top roll; 1 woolen goods; 2 yeast. Markets,—17 fish; 31 meat. Mills,—1 drug and grain; 2 marble works; 1 paint; 5 planing. 1 Music Hall; 1 Odd Fellows Hall; 2 Opera houses; 3 organs; 8 oyster houses; 284 offices; 4 photographers; 3 plaster and stucco workers; 2 plumbers; 3 police stations; 7 printing establishments; 4 provision curers and packers; 6 railroads; 15 restaurants; 1 roofer. Saloons,—1 billiard; 1 bowling; 4 ice cream; 5 lager beer; 6 oyster. Schools,—1 boarding; 8 private; 7 public; 1 Reform. Shops,—7 barber; 4 blacksmith; 4 carpenter; 3 cooper; 1 junk; 4 paint; 1 shoemaker; 6 tailor; 2 tinmen. 8 sprinkling carts. Stables,—2 hack; 22 jivery; 60 private; 1 sale; 13 work. 9 steam boats; 11 steamships; 4 steam and gas pipe fitters. Stores,—22 apothecary; 1 auction; 14 boot and shoe; 1 carriage trimmings; 5 cigar; 15 clothing; 3 confectionery; 1 drug; 14 dry goods; 3 fancy goods; 7 flour and grain; 8 fruit; 6 furniture; 2 gent's furnishing goods; 41 grocery—retail; 12 grocery—wholesale; 2 hardware; 2 hide and leather; 10 house furnishing goods; 3 iron and steel; 7 jewelry; 9 liquor; 1 lime and brick; 2

manufacturers' supplies ; 7 millinery ; 1 newsdealer ; 2 paints and oil ; 2 paper and paper stock ; 1 produce—wholesale ; 1 stationer , 2 stove ; 3 tea ; 2 trunk ; 15 not classed. 2 undertakers ; 1 United States Custom-house building ; 1 upholsterer ; 2 water boats ; 1 wheelwright ; 1 wood turner.

The daily consumption of water, including leakage, is now about seven hundred thousand gallons. At one time, owing to great waste, it was about one million gallons.

The amount of expenditures during the last quarter was - - - \$188,267 14

The total amount of expenditures is 2,097,528 30

The total amount of appropriations is, 2,200,000 00

The unexpended balance is - 102,471 70

The amount received during the last quarter, all of which has been paid to the City Treasurer is,

For Water Supplies, \$10,239 85

“ water meters, - 6,095 60

“ penalties, - - 10 00

“ sundries, - 13,439 01

29,784 46

The amount of receipts for water to date is, 30,074 62

The amount of all receipts to date is, 68,220 01

An additional appropriation will be needed before the close of the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of Ledger, September 30th, 1872, are hereunto appended and made parts of this report.

JOSEPH J. COOKE,	}	<i>Water Commissioners.</i>
CHAS E. CARPENTER,		
WILLIAM CORLISS,		

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM JULY 1, 1872, TO SEPTEMBER 30, 1872, INCLUSIVE.

1889	James MacDonald & Co., on account construction Sockanosset reservoir,	\$500 00
1940	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.)	266 81
1941	Schooner Manantico, freight of water pipes, (charged to R. D. Wood & Co.)	300 00
1942	James MacDonald & Co., on account construction Sockanosset reservoir,	1400 00
1943	J. W. & J. J. Newman, carting pipes and castings,	808 27
1944	" " setting hydrants,	966 00
1945	" " " "	214 20
1946	James MacDonald & Co. work on chambers, &c. and extra work on reservoir,	237 94
1947	Mannet Brazil, labor on Sockanosset reservoir,	29 45
1948	Royal Ingraham, watchman, &c.	15 39
1949	Benjamin F. Gladding, labor at Pettaconset,	234 79
1950	James MacDonald & Co., on account construction Sockanosset reservoir,	1,000 00
1951	J. W. & J. J. Newman, trenching, back filling and laying water pipes,	11,150 00
1952	Builders Iron Foundry, special castings,	1,191 53
1953	Fuller Iron Works, " "	1,253 19
1954	William M. Holloway, labor on gate chambers at Sockanosset reservoir,	55 00
1955	Johnson & Whittemore, Telegraph line from Pettaconset to Sockanosset, and repairs on old line,	576 00
1956	Smith & Beckwith, cutting curbstone for hydrant boxes,	117 50
1957	R. D. Wood & Co., on account water pipes,	80 00
1958	Hopkins & Pomroy, coal,	181 40
1959	Warren Foundry and Machine Co., on account water pipes,	\$,361 23
1960	Martin Quinton, clearing out vaults on Hope reservoir lands,	21 00
1961	Richard Martin, metallic packing for engine at Pettaconset,	42 75
1962	R. D. Wood & Co., on account of water pipes,	6,727 85
1963	Charles H. Pierce, salary as assistant engineer,	250 00
1964	Samuel M. Gray, " " " "	250 00
1965	Charles H. Swan, " " " "	166 67
1966	Otis F. Clapp, " " " "	206 33
1967	Howard A. Carson, " " " "	166 67
1968	William T. Schneider, " " " "	100 00
1969	John E. Bowen, " " " "	83 33
1970	Charles F. Jones, " as service pipe engineer,	100 00
1971	William F. Jones, " as asst. " " "	50 00
1972	Augustus F. Nagle, " " mechanical " "	200 00
1973	J. Rayner Edmonds, " " asst. " "	88 33
1974	Lucius J. Sampson, " as student, engineering department,	41 67
1975	George H. Slade, " " " " "	41 67
1976	George F. Munro, " " " " "	33 33
1977	Henry N. Francis, salary as student, engineering department,	33 33
1978	Lepriele Sweet, 2d, " " " " "	33 33
1979	Edmund B. Weston, " " " " "	33 33
1980	Mark Willmarth, " " " " "	33 33
1981	Louis R. Daniels, " " " &c. "	50 00

Amount carried forward, - - - \$37,642 12

	Amount brought forward,	-	-	\$37,642 12
1962	Walter R. Jackson, salary as student engineering department,	-	-	25 00
1963	Edwin P. Dawley, " " " on trial, "	-	-	25 00
1964	Daniel D. Waterman, " " " " "	-	-	41 67
1965	Daniel P. Stone, " temporary office assistant,	-	-	31 80
1966	Walter F. Slade, " service pipe clerk,	-	-	66 67
1967	Wm. M. Longstreet, " clerk, engineering dept.	-	-	100 00
1968	William H. Turner, " " " " "	-	-	88 33
1969	Robert Knight, " " " " "	-	-	66 67
1990	Asa Sisson, " inspector of pipes,	-	-	52 42
1991	Henry H. Brown, " supt. of pipe yards,	-	-	125 00
1992	Andrew B. Purdy, " " work,	-	-	166 67
1993	Henry G. Dennis, " Inspector on pipe lines,	-	-	104 00
1994	Samuel R. Eccleston, " " " " "	-	-	104 00
1995	Elbert Purdy, " " " " "	-	-	104 00
1996	Foster S. Dennis, Jr., " " " " "	-	-	104 00
1997	George Bowers, " " " " "	-	-	104 00
1998	Wm. H. Patterson, " " " " "	-	-	104 00
1999	S. Horace Wheeler, " inspector of service pipes,	-	-	96 00
2000	Arthur M. Black, " " " " "	-	-	104 00
2001	Jesse E. Gray, " at reservoir,	-	-	42 50
2002	Burrows Chace, " " " " "	-	-	100 00
2003	Jeptha Baker, " keeper of reservoir,	-	-	75 00
2004	Frederic A. Arnold, " inspector of water fixtures,	-	-	66 67
2005	Thomas G. Bruce, " pumping engineer,	-	-	125 00
2006	John Hamilton, " fireman,	-	-	56 00
2007	Peter O'Brien, " night watchman,	-	-	60 00
2008	Thomas A. McDonald, " axeman and Sunday watchman,	-	-	58 00
2009	Michael Tallant, " axeman,	-	-	44 00
2010	Clinton D. Sellow, salary as Secretary of Water Commissioners,	-	-	166 67
2011	Thomas H. Carrique, " Commissioners' clerk,	-	-	16 13
2012	Thomas C. Gushee, " " " " "	-	-	66 67
2013	Robert T. Nicola, " care of rooms,	-	-	27 60
2014	Charles H. Pierce, " paid by him for sundries,	-	-	181 32
2015	" " " for labor at wharf,	-	-	398 08
2016	William T. Schneider, " " for labor and materials,	-	-	37 84
2017	Benjamin F. Gladding, " labor at Pettaconset,	-	-	11 86
2018	George W. Hall, " drain tile, &c.,	-	-	11 05
2019	Dexter Gorton & Co., " carpenter's work, &c.,	-	-	76 97
2020	Wm. H. Miller & Co., " blacksmith work,	-	-	71 93
2021	Slade & Perrin, " lumber, stakes and strips,	-	-	9 75
2022	J. P. Handy, " repairing wagon,	-	-	12 62
2023	G. W. Edmonds, " " " " "	-	-	10 26
2024	M. D. Copeland, " carting pipes,	-	-	87 50
2025	George L. Downing, " labor on reservoir avenue,	-	-	48 50
2026	H. G. Macomber, " repairing sewer, Eddy, corner Wash. st.,	-	-	35 48
2027	Hope Iron Works, " cutting off pipes,	-	-	13 72
2028	Frederick Eckles, " transit instrument, &c. engineering dept.,	-	-	215 00
2029	Allen Fire Dept. Supply Co., " hydrants for street sprinklers,	-	-	59 74
2030	Union Water Meter Co., " water meters,	-	-	2,182 00
2031	Boston Machine Co., " post hydrants,	-	-	85 00
2032	Wm. M. Holloway, " building culverts,	-	-	836 00
2033	R. S. Burrough & Co., " lard oil,	-	-	34 87
2034	Dexter Gorton & Co., " carpenter's work, &c.,	-	-	404 26
2035	Wood & Winsor, " tools and fixtures for testing meters,	-	-	28 90

Amount carried forward,

\$45,003 31

REPORT OF THE WATER COMMISSIONERS.

23

Amount brought forward,			\$45,003 21
3036	A. F. Allen,	hydrants for street sprinklers,	83 85
3037	James MacDonald & Co.,	tools and labor on Reservoir Avenue,	59 77
3038	"	on account construction Sockanosset reservoir,	5,467 55
3039	Caleb Rodman,	carting drain pump and engine to Pettaconset,	23 20
3040	Fuller Iron Works,	special castings,	804 13
3041	Horace B. Bowen,	hydrant and pipe bolts,	370 94
3042	Wm. S. Briggs,	horse hire, engineering department,	68 00
3043	Builders Iron Foundry,	special castings,	743 74
3044	Benjamin F. Gladding,	excavation at Pettaconset,	564 89
3045	J. W. & J. J. Newman,	trenching, back-filling and laying water pipes,	2,600 00
3046	"	setting hydrants,	574 00
3047	"	carting pipes,	707 44
3048	Warren Foundry and Machine Co.,	on account of water pipes,	15,000 00
3049	Smith & Beckwith,	cutting curbstones for hydrant boxes,	72 25
3050	Dexter Gorton & Co.,	gate boxes,	120 00
3051	J. Whelden & Son,	foundation stone for Hope pumping station,	12 80
3052	James Moran,	labor on Hope engine house and reservoir,	28 00
3053	Charles H. Pierce,	paid by him for labor at Sockanosset reservoir,	159 50
3054	Boston and Providence R. R. Co.,	transportation of bricks,	111 60
3055	R. D. Wood & Co.,	on account of water pipes,	3,107 02
3056	Falea, Jenks & Sons,	hydrants, taps, stops, &c.,	21,379 10
3057	Sloop Dighton Rock,	freight on bricks,	44 19
3058	Tucker, Swan & Co.,	coal,	635 29
3059	Boston & Providence Railroad,	transportation of bricks,	189 60
3060	Thomas Phillips & Co.,	on account of laying service pipe,	3,000 00
3061	"	"	1,500 00
3062	"	" tin lined lead pipes,	1,000 00
3063	William M. Holloway,	building culvert,	1,390 00
3064	Charles H. Pierce,	salary as assistant engineer,	250 00
3065	Samuel M. Gray,	"	250 00
3066	Charles H. Swan,	"	166 67
3067	Otis F. Clapp,	"	206 33
3068	Howard A. Carson,	"	166 67
3069	William T. Schneider,	"	100 00
3070	John E. Bowen,	"	88 23
3071	Calvin F. Allen,	"	26 88
3072	Charles F. Janes,	service pipe engineer,	100 00
3073	William F. Janes,	ass't. " " "	50 00
3074	Augustus F. Nagle,	mechanical engineer,	200 00
3075	J. Rayner Edmonds,	ass't " " "	88 23
3076	Lucius J. Sampson,	student, engineering department,	41 67
3077	George H. Slade,	" " " "	41 67
3078	George F. Munroe,	" " " "	33 33
3079	Henry N. Francis,	" " " "	33 33
3080	Leprillete Sweet, 2d,	" " " "	33 33
3081	Edmund B. Weston,	" " " "	33 33
3082	Mark Wilmarth,	" " " "	33 33
3083	Louis R. Daniels,	" &c., " " "	50 00
3084	Walter R. Jackson,	" " " "	25 00
3085	Edwin P. Dawley,	" " " "	25 00
3086	Daniel D. Waterman,	" " " "	41 67
3087	Daniel C. Stone,	temporary office assistant,	36 00
3088	Walter F. Slade,	service pipe clerk,	66 67
3089	William M. Longstreet,	clerk,	100 00
Amount carried forward,			\$114,096 10

Amount brought forward,		-	-	-	\$114,086 10
2090	William H. Turner, salary as clerk, engineering department,	-	-	-	83 33
2091	Robert Knight, " " "	-	-	-	66 67
2092	Clinton D. Sellow, " secretary of water commissioners,	-	-	-	166 67
2093	John S. Kellogg, " commissioner's clerk,	-	-	-	106 45
2094	Thomas C. Gushee, " " "	-	-	-	66 67
2095	Asa Sisson, " inspector of pipes, engineering department,	-	-	-	88 71
2096	Henry H. Brown, " superintendent of pipe yards,	-	-	-	126 00
2097	George C. Harkness, salary as clerk at pipe yard,	-	-	-	65 00
2098	Richard M. Wood, " " "	-	-	-	53 00
2099	Andrew B. Purdy, " superintendent of pipe work,	-	-	-	166 67
2100	Henry G. Dennis, " inspector on pipe line,	-	-	-	106 00
2101	Samuel R. Eccleston, " " "	-	-	-	106 00
2102	Elbert Purdy, " " "	-	-	-	106 00
2103	Foster S. Dennis, Jr., " " "	-	-	-	106 00
2104	George Bowers, " " "	-	-	-	106 00
2105	William H. Patterson, " " "	-	-	-	106 00
2106	S. Horace Wheeler, " " of service pipe,	-	-	-	106 00
2107	Arthur M. Black, " " "	-	-	-	106 00
2108	Frederic A. Arnold, " " of water fixtures,	-	-	-	66 67
2109	Jesse E. Gray, " " at reservoir,	-	-	-	92 50
2110	Jephtha Baker, " keeper of " "	-	-	-	77 50
2111	Thomas G. Bruce, " pumping engineer,	-	-	-	125 00
2112	John Hamilton, " fireman,	-	-	-	70 30
2113	Peter O'Brien, " night watchman,	-	-	-	68 00
2114	Thomas A. McDonald, axeman and Sunday watchman,	-	-	-	60 00
2115	Michael Tallant, axeman,	-	-	-	53 00
2116	Robert F. Nicola, care of rooms,	-	-	-	11 88
2117	George F. Johnson, " " "	-	-	-	11 00
2118	Charles H. Pierce, paid by him for sundries,	-	-	-	139 90
2119	" " " labor at wharf,	-	-	-	200 00
2120	William T. Schneider, " sundries,	-	-	-	10 20
2121	" " " labor at pumping station,	-	-	-	148 75
2122	Potter, Denison & Co., office furniture,	-	-	-	150 00
2123	L. F. Pease, window awnings,	-	-	-	84 00
2124	Daniel F. Burlingame, repairs to tools and labor at pumping station,	-	-	-	13 04
2125	Benjamin F. Gladding, labor at pumping station,	-	-	-	127 76
2126	William M. Holloway, labor and materials furnished at Pettaconset,	-	-	-	124 53
2127	William S. Briggs, horse hire, engineering department,	-	-	-	63 00
2128	M. D. Copeland, teaming,	-	-	-	91 00
2129	George H. Whitney, stationery, &c.,	-	-	-	14 10
2130	" " books, stationery, &c., engineering department,	-	-	-	67 03
2131	James Crawford, painting signs, &c.,	-	-	-	13 50
2132	H. Armington & Co., drain tiles,	-	-	-	24 67
2133	W. E. Barrett & Co., seeds for Sockanosset reservoir,	-	-	-	15 00
2134	Dexter Gorton & Co., carpenter's work, &c.,	-	-	-	364 57
2135	Hopkins & Pomroy, cement,	-	-	-	106 00
2136	E. M. Hunt, lime and cement,	-	-	-	50 20
2137	Congdon, Carpenter & Co., hoop iron,	-	-	-	8 65
2138	Charles A. Siefert, instruments, engineering department,	-	-	-	15 00
2139	John H. Joslin & Son, lumber, grade posts at Pettaconset,	-	-	-	23 44
2140	George W. Hall & Co., bricks,	-	-	-	21 75
2141	Boston & Providence Railroad, transportation of bricks,	-	-	-	23 70
2142	Boston Machine Co., post hydrants,	-	-	-	42 00
Amount carried forward,		-	-	-	\$116,491 81

Amount brought forward,		\$118,491 81
2143	Allen Fire Department Supply Co., hydrants for street sprinklers,	55 66
2144	Union Water Meter Co., water meters,	2,323 50
2145	Providence Steam & Gas Pipe Co., water pipes, fixtures, &c., for cottages,	97 01
2146	Manchester Bros., photographs,	12 00
2147	Henry C. Steffelin, refreshments at boiler tests,	73 80
2148	Thomas J. Hill, rent of wharf, &c.,	400 00
2149	Boston & Providence Railroad, transportation of bricks,	71 10
2150	Schooner Manantico, on acc't of freight of water pipes, (charged to R. D. Wood & Co.)	250 00
2151	Hopkins & Pomroy, cement, &c.,	300 75
2152	Charles H. Pierce, paid by him for labor on Sockanosset reservoir,	96 50
2153	Michael Cooney, labor on Hope engine house and reservoir,	51 50
2154	W. A. Burdick, Agent, on acc't granite underpinning for Hope engine house,	3,000 00
2155	Fuller Iron Works, special castings,	1,321 41
2156	Fales, Jenks & Sons, hydrants, hy'd't. boxes and covers, water gates, &c.,	8,739 00
2157	J. W. & J. J. Newman, trenching, back filling and laying water pipes,	10,950 00
2158	" " carting pipes,	761 98
2159	" " setting hydrants, &c.,	582 00
2160	Warren Foundry & Machine Co., on account of water pipes,	3,665 87
2161	Albert Dudley & Co., lumber,	80 12
2162	Smith & Beckwith, cutting curbstones for hydrant boxes,	26 00
2163	S. F. & J. A. Gray, on account of bricks,	2,000 00
2164	Benjamin F. Gladding, excavation at Pettaquamscutt,	266 66
2165	Bullders Iron Foundry, special castings,	510 19
2166	J. W. & J. J. Newman, repairing streets, &c.,	162 82
2167	C. S. Bradley, counsel fees,	1,500 00
2168	Charles H. Parkhurst, counsel fees, &c.	421 50
2169	Wardwell & Foster, damage,	50 00
2170	Boston & Providence Railroad, transportation of bricks,	47 40
2171	Fales, Jenks & Sons, on account hydrants, taps, stops, &c.,	6,000 00
2172	William Elsbree, carting bricks, &c.,	205 31
2173	" " repairs on Reservoir Avenue,	269 07
2174	" " paving around water gates, &c.,	268 50
2175	J. W. & J. J. Newman, setting hydrants,	129 66
2176	Packard & Parsons, lightning conductors,	127 20
2177	Stephen Knobb, carting stone for Hope engine house,	179 30
2178	Benjamin F. Gladding, labor at pumping station,	296 80
2179	Read & Richards, on acc't. construction Hope engine house,	2,400 00
2180	Thomas Phillips & Co., an acc't. tin lined lead pipe,	7,000 00
2181	City of Providence, curb stones for Thayer street extension,	684 88
2182	J. Herbert Shedd, salary as Chief Engineer,	1,500 00
2183	Charles H. Pierce, " " assistant "	250 00
2184	Samuel M. Gray, " " " "	260 00
2185	Charles H. Swan, " " " "	166 67
2186	Otis F. Clapp, " " " "	208 38
2187	Howard A. Carson, " " " "	166 67
2188	William T. Schneider, " " " "	100 00
2189	John E. Bowen, " " " "	83 33
2190	Calvin F. Allen, " " " "	83 33
2091	Charles F. Jones, " " service pipe engineer,	100 00
2092	William F. Jones, " " assistant " "	50 00
2193	Augustus F. Nagle, " " mechanical " "	200 00
2194	J. Raynor Edmonds, " " ass't. " "	88 38
2195	Lucius J. Sampson, " " student, eng ineering department,	41 67

Amount carried forward,

\$177,170 23

Amount brought forward,		\$177,170 28
2196	George H. Slade, salary as student, engineering department,	41 67
2197	George F. Munro, " " " " "	33 33
2198	Henry N. Francis, " " " " "	33 33
2199	Leprillete Sweet, 2d, " " " " "	33 33
2200	Edmund B. Weston, " " " " "	33 33
2201	Mark Wilmarth, " " " " "	33 33
2202	Louis R. Daniels, " " &c. " " "	50 00
2203	Walter R. Jackson, " " " " "	25 00
2204	Edwin P. Dawley, " " " " "	25 00
2205	Daniel D. Waterman, " " " " "	41 67
2206	Daniel C. Stone, " " temporary office ass't, " "	39 00
2207	Walter F. Slade, " " service pipe clerk, " "	66 67
2208	William M. Longstreet, " " clerk, " "	100 00
2209	William H. Turner, " " " " "	33 33
2210	Robert Knight, " " " " "	66 67
2211	Henry H. Brown, " " superintendent of pipe yard,	58 33
2212	Andrew B. Purdy, " " superintendent of pipe work,	166 67
2213	Henry G. Dennis, " " inspector on pipe line,	100 00
2214	Samuel R. Eccleston, " " " " "	100 00
2215	Elbert Purdy, " " " " "	100 00
2216	Foster S. Dennis, " " " " "	100 00
2217	George Bowers, salary as inspector on pipe line,	100 00
2218	William H. Patterson, " " " " "	100 00
2219	S. Horace Wheeler, " " of service pipes,	100 00
2220	Richard M. Wood, salary as clerk at pipe yard,	54 00
2221	George C. Harkness, " " " " "	67 50
2222	Jesse E. Gray, " as inspector at reservoir,	115 00
2223	Jephtha Baker, " keeper of " " "	77 50
2224	Thomas G. Bruce, " pumping engineer,	125 00
2225	John Hamilton, " fireman,	86 40
2226	Patrick McManis, " coal heaver,	50 20
2227	Peter O'Brien, " night watchman,	62 00
2228	Thomas A. McDonald, axeman and Sunday watchman,	58 00
2229	Michael Tallant, " " " " "	52 50
2230	Charles H. Pierce, paid by him for labor at wharf,	250 73
2231	" " " sundries,	114 07
2232	William T. Schneider, paid by him for labor at Pumping Station,	213 10
2233	Alfred Stone, architectural services—Hope " "	400 00
2234	George F. Johnson, care of rooms,	50 88
2235	Frederic A. Arnold, salary as inspector of water fixtures,	66 67
2236	Thomas C. Gushee, " Commissioners clerk,	66 67
2237	John S. Kellogg, " " " " "	46 67
2238	Philip S. Chase, " " " " "	50 00
2239	Joshua B. Chapin, services and expenses investigating Pawtuxet river banks,	191 72
2240	Clinton D. Sellew, " as secretary to Water Commissioners,	166 67
2241	Joseph J. Cooke, " " Water Commissioner,	500 00
2242	Charles E. Carpenter, " " " " "	500 00
2243	William Corliss, " " " " "	500 00
2244	Marshall Woods, rent of offices,	535 00
2245	Akerman & Co., blank books, etc.,	49 87
2246	Sidney S. Rider & Bro., stationery, etc.,	76 67
2247	Thomas Phillips & Co., laying service pipes,	769 81
Amount carried forward,		\$184,087 53

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,		\$184,087 53
2248	Valpey, Perkins & Co., books and stationery,	8 25
2249	Hammond, Angell & Co., printing,	130 10
2250	Tuttle & Hobbs, horse keeping—engineering department,	85 43
2251	William S. Briggs, " hire by Engineers,	48 00
2252	M. D. Copeland, teaming,	94 50
2253	F. W. Lincoln, Jr. & Co., steel tape,	9 00
2254	W. H. Paine, steel measure,	15 00
2255	Moulton & Ingraham, stakes—engineering department,	17 38
2256	Mrs. S. P. & Frederic A. Arnold, damage,	60 05
2257	Allen Fire Department Supply Co., hose, etc.,	8 50
2258	A. C. Eddy & Studleys, rubber collars, etc.,	42 50
2259	Smith & Beckwith, cutting curb stones for hydrant boxes,	21 00
2260	Barker, Whittaker & Co., belting, etc.,	95 90
2261	John McWilliams, labor on tools,	22 80
2262	Providence Nickel Plating Works, plating valves, etc.,	10 00
2263	James Turner & Co., polishing oil,	17 25
2264	American Steam Gauge Co., repairs on gauges,	12 00
2265	Freeborn Potter, wood for pumping station,	112 50
2266	Congdon, Carpenter & Co., hoop iron,	6 16
2267	Butts & Mason, lampblack, etc.,	32 46
2268	William H. Miller & Co., repairing tools,	17 92
2269	Union Water Meter Co., water meters,	1,381 50
2270	Dexter Gorton & Co., carpenter's work, etc.,	184 51
2271	" " " " " "	151 29
2272	Wood & Winsor, pipes, nipples, couplings, cocks, etc.,	81 35
2273	Providence Steam & Gas Pipe Co., pipes, labor and materials for drainage pump and engine,	897 61
2274	Cleveland & Brothers, office furniture, etc.,	440 24
2275	G. & C. P. Hutchins, gas fixtures, etc.,	137 79
2276	Boston and Providence Railroad Co., transportation of granite,	29 88
2277	" " " " " "	28 75
		<hr/> \$188,267 14

RECEIVED FROM JULY 1, 1872, TO SEPTEMBER 30, 1872, INCLUSIVE, AND PAID TO THE CITY TREASURER.

1872.

July 2,	Of Burrows Chace, for three months rent of farm in Warwick, purchased of Miss Patience W. Chace, to July 1, 1872,	\$43 75
	William M. Holloway, for three month rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to September 1, 1872,	56 25
3,	Of Builders' Iron Foundry, for labor and materials,	23 01
8,	Of Juan de Souza, for damage by cows to farm, purchased of S. B. Gardiner,	10 00
8,	Of Clyde Iron Line of Steamships, for laying water pipes,	100 00
13,	Of Highway Department, city of Providence, for grading Reservoir Avenue,	9,500 00
15,	Of Atlantic de Laine Co., for water pipes,	119 70
Amount carried forward,		<hr/> \$9,852 7

	Amount brought forward,	\$9,888 71
July 18,	Of Thomas Hannay, for soda and loam,	279 22
27,	Of George Harris, for labor and materials,	10 74
27,	Of Benjamin F. Gladding, for four months rent of a portion of the "Aldridge" farm, to 26th inst.,	40 00
August 2,	Of Henry H. Brown, for wharfage collected by him,	100 00
5,	Of James MacDonald & Co., for rent of buildings, on farm purchased of S. B. Gardiner, from March 25, to July 24,	60 00
26,	Of Thomas P. I. Goddard, for labor and materials,	12 54
29,	Of Boston and Providence Railroad Co., for labor and materials,	272 54
31,	Of Thomas Hannay, for three months rent of estate purchased of Miss Julia Bullock, to September 1, 1872,	75 00
Sept. 3,	Of Henry H. Brown, for wharfage collected by him,	100 00
4,	Of S. M. Gray, for grass on farm purchased of S. B. Gardiner,	30 00
4,	Of R. D. Wood & Co., for pressure gauge,	25 00
10,	Of Providence Reform School, for labor and materials,	250 00
12,	Of Thomas J. Hill,	216 88
12,	Of William M. Holloway, for three months rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to December 1, 1872,	56 25
16,	Of Henry H. Brown, for wharfage collected by him,	242 84
18,	Of Thomas Phillips & Co., for labor and materials,	702 49
18,	Of B. B. & R. Knight, for repairs of telegraph,	24 62
20,	Of Clyde Iron Line of Steamships, for labor and materials,	66 98
21,	Of Benjamin F. Gladding, for two months rent of farm buildings on "Aldridge" farm, from July 25, 1872, to September 25, 1872,	30 00
24,	Of Field, Weaver & Son, for labor and materials,	308 88
27,	Of Paine & Sackett,	615 00
28,	Of Friends' School,	126 29
30,	For water during the quarter,	10,239 86
30,	For Meters	6,095 60
30,	For penalties, for violation of rules during quarter,	10 00
		<hr/> \$39,784 46

TRIAL BALANCE OF LEDGER, SEPTEMBER 30, 1872.

Dr.

Hope Reservoir for land,	-	\$ 124,101 33
" " " sundries,	- -	267 47
" " " labor,	- -	47 50
" engine house,	- -	1,913 81
Sockanisset Reservoir, for sundries,	-	292 16
" " " land,	-	16,074 35
" " " construction,	-	177,870 72
" " " watch,	-	681 75
" " " gate houses,	-	79 22
" " " drain,	-	1,638 72
" " " inspection,	-	6,809 18
" " for extra work and materials,	-	189 70
" " " gate chambers,	-	9,787 51
Line of leading mains for labor, and materials,	-	19,687 93
" " " " extra trenching, etc.,	-	305 95
" " " " land and damages,	-	1,165 00
Force main line, for land and damages,	-	3,006 35
" " " labor and materials,	-	5,099 28
" " " extra trenching, etc.,	-	332 56
Office furniture, stoves, gas fixtures, etc.,	-	1,154 14
Rent of offices,	-	1,950 00
Books, stationery, etc.,	-	598 43
Fuel and lights,	-	204 39
Horse hire by Commissioners,	-	19 00
Janitor of rooms,	-	294 00
Traveling expenses of Commissioners,	-	122 62
Clerks' salaries,	-	2,723 97
Commissioners' salaries,	-	18,208 79
Secretary's salary,	-	666 68
Sundries,	-	215 35
Printing,	-	1,167 40
Advertising,	-	1,283 08
Fences,	-	2,050 38
Stop valves,	-	38,994 70
Store-house and work-shop,	-	749 06
Tools,	-	4,460 95
Labor on pipes,	-	8,619 15
Rent of wharves and pipe yards,	-	2,302 25
Cast iron water pipes,	-	879,399 05
Special castings,	-	61,183 22
Linking curved pipes,	-	232 75
Lumber,	-	1,455 71
Amount carried forward,	-	\$1,397,405 54

Amount brought forward,	- \$1,397,405 54
Fire hydrants,	- 54,740 00
Sockanosset hill cross-road,	- 3,849 00
Pettaconset and Sockanosset telegraph line,	- 1,707 94
Dwelling houses at Pettaconset,	- 3,875 39
Culverts and bridge on line of force mains,	- 6,775 33
" at Pettaconset,	- 3,557 92
Real estate in Warwick,	- 13,110 04
Water privileges, mill, and other real estate in Pawtuxet,	- 50,231 96
Pettaconset pumping station, for land,	- 1,295 20
Pochasset bridge,	- 5,509 72
Wharf salaries,	- 3,696 33
Temporary engine house at Pettaconset,	- 8,416 87
Engine house " "	- 872 86
Natural filter basin,	- 6,473 05
Roads, slopes, etc., at Pettaconset,	- 8,946 79
Removing loam,	- 459 95
Iron screw piles,	- 2,698 89
Hydrant bolts,	- 786 61
Pipe bolts,	- 1,075 54
Photographs,	- 147 00
Hydrant heads,	- 4,797 99
Taps and stops,	- 9,855 06
Valve covers,	- 3,588 28
Service pipe,	- 9,357 27
Hydrant boxes,	- 14,922 70
Setting fire hydrants,	- 5,620 21
Valve boxes,	- 19,786 78
Check valves,	- 1,412 48
Air cocks, boxes, covers and setting,	- 462 00
Night and Sunday Watch at engine house,	- 794 50
Pettaconset pumping station, for sundries,	- 1,862 43
" " " " engineer,	- 1,353 65
" " " " coal and wood,	- 2,573 05
" " " " labor on fuel,	- 254 73
" " " " fireman,	- 756 35
Setting blow-offs,	- 265 66
Ascertaining and removing nuisances on Pawtuxet river,	- 191 72
Freeborn Johnson & Co.,	- 3,500 00
S. F. & J. A. Gray,	- 2,443 40
Builders' Iron Foundry,	- 6,615 00
John W. & James J. Newman,	- 97,300 00
Taunton Brick Co.,	- 44 19
W. A. Burdick, Agent,	- 3,000 00
Granite Railway Co.,	- 58 63
Town of Cranston,	- 5,000 00
A. & W. Sprague Manuf'g Co.,	- 2,500 00
Amount carried forward,	- \$1,773,948 01

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,	\$1,773,948 01	
Thomas Phillips & Co.,	8,000 00	
City of Providence, for Meeting street sewer,	5 91	
" " " Angell "	12 40	
" " " drinking fountain,	149 27	
Fall River Iron Works,	257 84	
Keystone Line of Steamships,	116 29	
Read & Richards,	2,400 00	
City Treasurer,	38,145 39	
" " for water payments,	30,074 62	
Testing pipe iron,	258 50	
Iron drain pipes and gate,	224 21	
Carting pipes,	21,534 58	
Counsel fees,	3,400 00	
Inspection of pipes,	6,367 79	
" " pipe laying,	12,873 51	
" " water fixtures,	632 10	
Testing Bolts and composition castings,	34 25	
Laying water pipes,	112,057 67	
" service "	7,832 81	
" suction " etc.,	85 00	
Drainage pump and engine,	2,552 06	
Hydrants for street sprinklers,	1,286 37	
Water meters,	14,210 62	
Worthington Pumping engine,	35,629 76	
Providence Gas Co.,	75 36	
		\$2,072,164 32

ENGINEERING DEPARTMENT—

For Instruments,	\$2,153 05	
Tools,	503 35	
Furniture, stoves, gas fixtures, etc.,	2,091 45	
Books, stationery, etc.,	1,804 26	
Labor,	3,286 48	
Draughting,	3,504 77	
Horse and wagon account,	1,076 33	
Horse keeping, shoeing, etc.,	953 44	
Horse hire,	1,564 40	
Rent of offices,	3,085 14	
Fuel and lights,	488 47	
Janitor of rooms,	548 54	
Experimental filter,	91 08	
Sundries,	1,408 89	
Test wells,	1,579 40	
Consultations,	320 00	
Office building at Pettaconset,	553 21	
" " " Sockanosset reservoir,	553 22	
Amounts carried forward,	\$25,575 48	\$2,072,164 32

Amounts brought forward,	-	\$25,575 48	\$2,072,164 32
Stakes and strips,	-	605 50	
Printing,	-	135 57	
Maps,	-	86 67	
Service pipe experiments,	-	295 76	
Salaries,	-	71,306 81	
Temporary assistance,	-	6,237 32	\$104,243 11
			<u>\$2,176,407 43</u>

CR.

Hope Reservoir, for land (rents received and build- ings, etc., sold),	-	3,772 42	
Sockanosset reservoir, for land (rents received and wood, etc., sold),	-	1,428 49	
Real estate in Warwick, (rents received),	-	387 50	
Pettaconset Pumping Station, for land (rents re- ceived),	-	278 75	
Warren Foundry and Machine Co.,	-	3,650 00	
R. D. Wood & Co.,	-	17,580 00	
Fuller Iron Works,	-	2,050 00	
Fales, Jenks & Sons,	-	5,800 00	
Interest,	-	54 66	
Water meters,	-	11,994 80	
Penalties,	-	10 00	
Water,	-	30,074 62	
Boston hydrants,	-	58 36	
Approved bills,	-	2,097,528 30	
Water privileges, mill, and other real estate in Pawtuxet, (rents received),	-	1,739 53	\$2,176,407 43

1872-73.]

CITY DOCUMENT.

No. 47.

THIRTEENTH QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

JANUARY 1, 1873.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1873.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

SECRETARY OF THE WATER COMMISSIONERS.

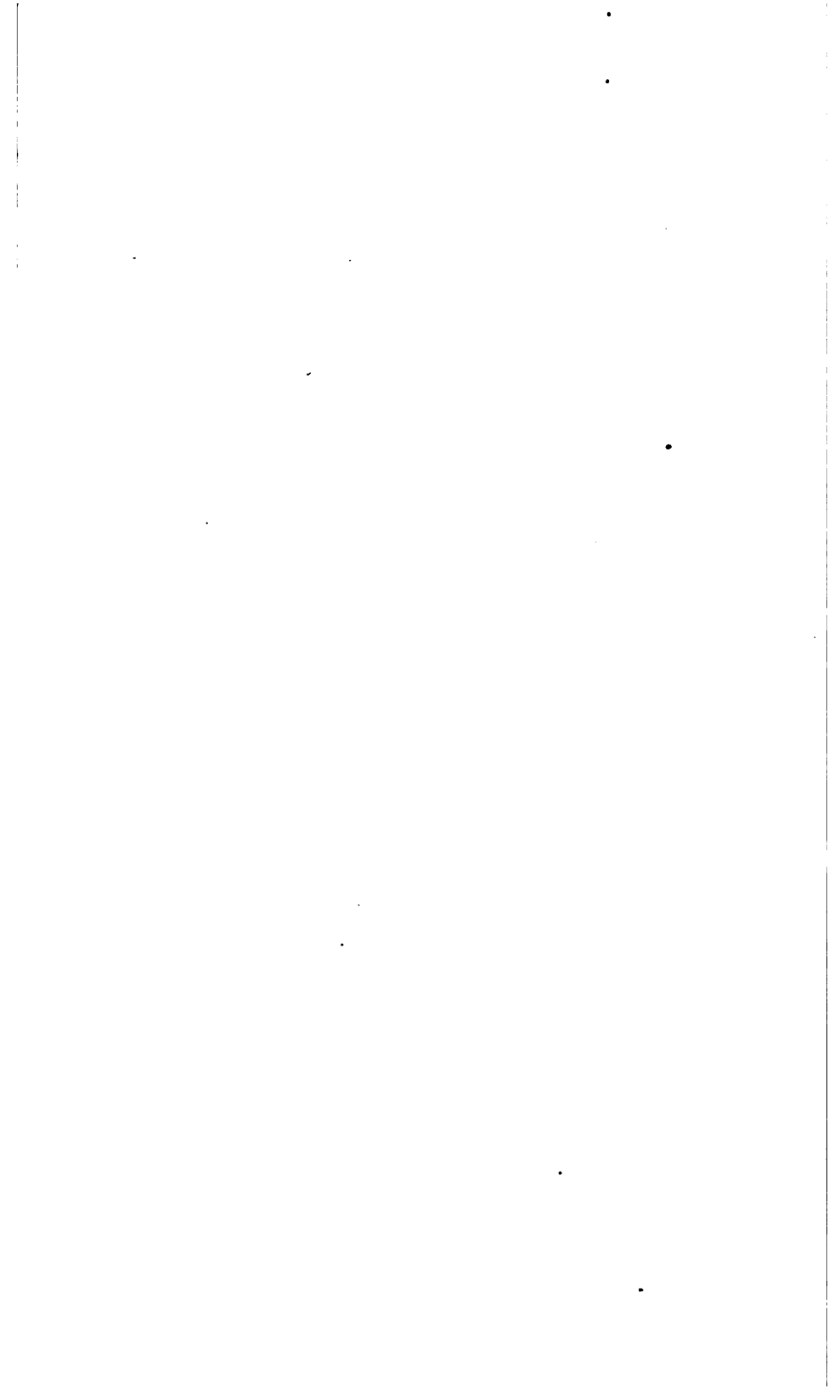
CLINTON D. SELLEW.
Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.
Office No. 35 North Main street.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
Providence, January 1st, 1873. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned, Water Commissioners, respectfully present their Thirteenth Quarterly Report:—

The salary of J. Herbert Shedd, Chief Engineer, has been increased to eight thousand dollars per annum, the increase dating from October 1, 1872.

John E. Bowen has been re-appointed Assistant Engineer, for one year from November 4, 1872 with a salary of twelve hundred dollars per annum.

Lucius J. Sampson has been appointed Assistant Engineer for one year from November 8, 1872, with a salary of one thousand dollars per annum.

Henry G. Dennis has been appointed Superintendent of Pipe Yards, dating from December 10, 1872, with a salary of fifteen hundred dollars per annum, to fill the vacancy caused by the resignation of Henry H. Brown, which took effect September 14, 1872.

The Commissioners have agreed with Thomas J. Hill for the continued occupancy of a portion of his wharf, for one year, from February 1, 1873, at a rent of two thousand dollars per annum, with a conditional privilege of another year at the same rent.

Notice has been received from the Providence Gas Co. that it will need the portion of its wharf now occupied by the Commissioners. for its own purposes, and therefore cannot renew the lease which expires May 1, 1873.

As the best and most economical way of crossing the railroad, thirty-inch leading mains were laid in land belonging to Charles E. Carpenter, adjoining Reservoir Avenue, near the railroad bridge, and in land also adjoining said Avenue, near said bridge, two undivided third parts of which belong to said Carpenter; the other undivided third part belonging to Harris I. Carpenter, a minor. Deeds of right of way for these pipes and for other pipes to be hereafter laid, have been received, as follows:

From Charles E. Carpenter for the nominal consideration of one dollar, for right of way through the land belonging solely to him, and from same for same consideration, of his undivided two thirds interest in right of way through the other parcel;

From Diana S. Parkhurst, guardian of Harris I. Carpenter, in consideration of five hundred dollars, of one undivided third interest in right of way through the last named parcel.

On the 19th of November, the proposals received in answer to an advertisement, for furnishing 1,401 tons of cast iron water pipes, were opened and were all rejected.

An offer made by W. A. Burdick, Agent, Westerly, R. I., to furnish granite blocks for the slope wall of Hope Reservoir, has been accepted, but the contract has not yet been executed.

On the 23d of November, a public test of Fire Hydrants was made by the Fire Department, in accordance with the request of His Honor the Mayor. A statement embracing the details of the trial, and also such facts in regard to the water works as have a special bearing upon their value as a protection against fire, made by the Chief Engineer of the water works, has been communicated to your honorable bodies by the Mayor, and has been printed in the city newspapers.

The second trial of the case of Charles Stafford *et al*, *vs.* the City of Providence, for damages for the taking of the "Aldridge farm" in Cranston, for water works purposes, commenced in the Supreme Court on the 25th of November and concluded on the 30th in a verdict for the plaintiff of \$23,053.32. This sum includes \$3,079.32 for interest. A new trial has been asked for in behalf of the city.

Hope Engine House is well advanced toward completion. The suction and force main pipes are nearly laid.

Sockanosset Reservoir is now full.

The work of excavating for the Natural Filter Basin at Pettaconset, continues.

One plumber's license has been issued since the last report, viz :

To Alphonzo R. Janes, for A. R. Janes & Son.

Making the total number of Plumbers' licenses issued to date, thirty-three.

The following statement shows the length of pipe laid during the last quarter ; the sizes of the pipes ; where laid, and the totals from the commencement of the work :

30 INCH.

In Greenwich and Public streets,	2,834 feet.
Including 4 cut pipes, 8 branches, 2 curved pipes, 3 gates, and 2 man-holes.	
Previously,	34,236 feet.
Total,	37,070 feet.

24 INCH.

In Olney street, including Hope Reservoir supply main, Harris Avenue and at Weybosset Bridge,	412 feet.
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Including 3 cut pipes, 3 branches, 5 curved pipes, 1 gate, 1 blow-off and 3 sleeves.

Previously, 16,673 feet.

Total, 17,085 feet.

16 INCH.

In North Main street, 16 feet.

Including 1 branch and 1 sleeve.

Previously, 9,150 feet.

Total, 9,166 feet.

12 INCH.

In Angell, Brown, Hidden, Prospect and Waterman streets, Atwell's and Wayland Avenues and from Brown street to Hope Pumping station,

3,633 feet.

Including 21 cut pipes, 27 branches, 2 curved pipes, 7 bevel-hubs, 5 gates, 4 reducers and 1 sleeve.

Previously, 7,159 feet.

Total, 10,792 feet.

10 INCH.

At Richmond Print Works, 933 feet.

Including 8 cut pipes, 7 branches, 1 bevel-hub, 4 gates and 1 reducer.

Previously, 5,745 feet.

Total, 6,678 feet.

8 INCH.

In Brown, Gano, Plane and Prospect streets, Prairie Avenue and for Richmond Print Works,

2,072 feet.

Including 13 cut pipes, 12 branches, 1 bevel-hub, 6 gates and 4 reducers.

Previously,	.	.	.	.	.	37,726 feet.
Total,	.	.	.	.	.	<u>39,798 feet.</u>

6 INCH.

In Angell, America, Asia, Atlantic, Barclay, Battey, Beacon, Bowen, Brown, Congdon, Cove, East River, Federal, Fountain, Halsey, Harrison, Hedley, Jenckes, Langley, Lexington, Maple, Mashapaug, Milk, Nichols, Olive, Palmer, Pettis, Pitman, Pratt, Prospect, Public, Randall, Sabin, South, South Angell, South Court, South Water, Sprague, Staniford, State, Sycamore, Union, Walling, Warren, Waterman, West River, Willow and Wood streets; Chapin, Doyle, Elmwood and Potter's Avenues; from Dexter street for Groton Mills, from Sprague street for Rolling Mill, from Wickenden street for Providence Tool Co's Works, and from Jewett street to yard of C. F. & J. M. Hull, and at Richmond Print Works, 29,893 feet.

Including 186 cut pipes, 110 branches, 31 curved pipes, 16 bevel-hubs, 78 gates, 8 reducers and 1 sleeve.

Previously,	.	.	.	.	.	209,135 feet.
Total,	.	.	.	.	.	<u>239,028 feet.</u>

Total of all sizes during the last quarter, 39,793 feet,
or 7.53 miles.

Previously, including 36 inch and 20 inch, of which none have been laid during the last quarter, 330,885 feet.

Total, 370,678 feet,
or 70.20 miles.

Sixty-five fire hydrants have been set since the date of the last Quarterly Report, one in each of the following locations:

America street,	north corner of Africa street.
Angell " "	north side, opposite east side of Ives street.
Asia " "	east corner of America street.
Atlantic " "	north side, about 210 feet east of Elmwood Avenue.
" " "	north side, about 210 feet west of Melrose street.
Atwell's Avenue,	north-east corner of Richmond Lane.
Barclay street,	east side, about 130 feet north of Federal street.
Bleachery " "	south-east corner of Eddy street.
Bowen " "	north side, 280 feet east of Prospect street.
" " "	north side 440 feet west of Thayer street.
Butler Avenue,	south-west corner of Waterman street.
Camp street,	north-west corner of Olney street.
Congdon " "	north-east corner of Lloyd street.
" " "	east side, about 160 feet south of Jenckes street.
Cove " "	south corner of Fountain street.
" " "	west side, 200 feet north of Sabin street.
Dexter " "	east side, about 140 feet north of Durfee street.
Doyle Avenue,	north side, about 380 feet east of North Main street.
" " "	north side, about 460 feet west of Camp street.
" " "	north-west corner of Camp street.
East River street,	east side, opposite South Angell street.
" " "	south west corner of Waterman street.

Eddy street,	east side, between Willard and Rhodes streets.
Elm Grove Avenue,	north west corner of Angell street.
Elmwood Avenue,	north-east corner of Lexington street.
Federal street,	north-west corner of Barker street.
Gano "	south-east corner of Angell street.
High "	south east corner of Sycamore street.
Lockwood, "	south west corner of Plane street.
Maple, "	north side, about half way between Beacon and Prince streets.
Milk "	north-west corner of Public street.
Oak "	north-east corner of Sycamore street.
Palmer "	east side, corner of Hedley street.
" "	east side, corner of Pettis street.
Parade "	south-west corner of Hudson street.
" "	south-west corner of Oak street.
Pitman "	north-east corner of Ives street.
Prairie Avenue,	west side, 260 feet north of Potter's Avenue.
" "	west side, half way between Potter's Avenue and Sayles street.
" "	west side, half way between Sayles and Square streets.
" "	north west corner of Fruit street.
Prospect street	north-east corner of Meeting street.
" "	north east corner of Lloyd street.
" "	east side, half way between Bowen and Cushing streets.
Pratt "	north west corner of Halsey street.
Sabin "	north side, half-way between Cove and Mathewson street.
South Angell street,	north side, half way between Butler and Wayland Avenues.
" " "	north-west corner of Butler Avenue.
" " "	north-west corner of Grand Avenue.
Sprague "	north side, about half way between Greenwich and Fuller streets.

Sprague street,		north-west corner of Harrison street.
Staniford	"	north-east corner of Public street.
Union	"	east corner of Worcester street.
Walling	"	east side, corner of Nichols street.
"	"	east side, half-way between Hedley and Pettis streets.
Warren	"	south side, 160 feet west of Greenwich street.
"	"	south-east corner of Harrison street.
Washington	"	north-east corner of Battey street.
Waterman	"	south side about half way between Butler and Wayland Ave- nues.
Wayland Avenue,		north-east corner of Waterman street.
"	"	south-east corner of South Angell street.
Willow street,		south-east corner of Sycamore street.
"	"	south side, about 175 feet west of Pa- rade street.
Wood street,		south-east corner of Sycamore street.
"	"	south side, about 225 feet west of Parade street.

The total number of Fire Hydrants is now five hundred and fifteen.

One hundred and fifty-three Union Water Meters have been put in at the expense of water takers since the date of the last report. There are five hundred and eighty-nine now in use, viz:

455 five-eighths inch.
 78 three-quarters inch.
 32 one inch.
 21 one and one-half inch.
 3 two inch.

The total number of applications for a supply of water is twenty-seven hundred and nine.

The number of service stops opened during the last quarter is three hundred and thirty.

The total number of service stops opened to date is nineteen hundred and nineteen.

Water has been turned off in two instances for non-payment of bills, in both of which payment immediately followed.

In no instance during the last quarter has water been shut off for infraction of rules, other than as above stated.

Water is now supplied for the following uses :

2 bakeries; 25 banks; 19 bar rooms; 1 bath—Turkish; 46 boarding houses; 3 bottling establishments; 30 building purposes; 2 carriage depositories; 1 Children's Friend Society; 1 Christian Union; 9 churches; 1 city barn; 1 city building; 1 city drinking fountain; 1 city drinking trough; 515 city fire hydrants; 8 city fire steamer stations; 1 city hose house; 4 club rooms; 9 coal yards; 1 colored shelter; 1 conservatory of Music; 2 convents; 1 Dexter Asylum; 864 dwellings of one family; 447 dwellings of two families; 27 dwellings of three families; 36 dwellings of four families; 9 dwellings of five families; 5 dwellings of six families; 2 dwellings of seven families; 2 dwellings of eight families; 2 dye houses; 1 express carriage house; 23 fountains—private; 1 furrier, 953 garden and street hydrants; 1 gas fixtures; 2 gasometers; 4 gold and silver platers; 4 gold and silver refiners; 2 grain elevators; 15 green houses; 6 Halls; 1 Hall of Latter-day Saints; 1 Home for Aged Women; 1 hospital; 10 hotels; 2 lodging houses; 2 lumber dealers; 7 Machinists; Manufacturing Establishments,—1 blank book; 1 bologna sausage; 1 box; 1 braiding works; 1 brass foundry; 1 brewery;

1 brush; 1 butt; 4 carriage; 4 cigar: 1 cigar box; 3 cloak and dress; 2 confectionery; 1 corset; 3 colorers of jewelry; 5 cotton; 1 crocus; 1 distillery, 2 dye sinkers; 1 dye wood; 1 dyeing, bleaching and calendering company; 1 eyelet; 2 file; 3 furniture; 1 gas; 1 gas burners; 1 geers; 1 harness; 1 horse shoe; 1 hulled corn; 2 ice cream and soda water; 1 iron company; 1 iron fence; 6 iron foundries; 57 jewelry; 3 lapidaries; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 2 paper box; 1 paper collar; 2 paper cop tube; 1 pattern; 3 patent medicines; 2 pump; 1 reed; 1 rubber tubing; 2 sash and blinds; 1 screw; 1 sheet iron; 2 shirt; 2 silver ware; 4 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engine; 1 stove; 1 tin; 4 tool; 1 top roll; 1 woolen goods; 2 yeast. Markets,—18 fish; 36 meat. Mills,—1 drug and grain; 2 flour and grain; 2 marble works; 1 paint; 6 planing.—1 Music Hall; 2 Odd Fellows Halls; 2 Opera houses; 5 organs; 4 oyster houses; 341 offices; 5 photographers; 3 plaster and stucco workers; 3 plumbers; 3 police stations; 10 printing establishments; 5 provision curers and packers; 6 railroads; 1 reading room; 19 restaurants; 1 roofer. Saloons,—2 billiard; 2 bowling; 4 ice cream; 5 lager beer; 6 oyster. Schools,—1 boarding; 8 private; 10 public; 1 reform. Shops,—9 barber; 4 blacksmith; 4 carpenter; 3 cooper; 1 junk; 4 paint; 1 shoemaker; 15 tailor; 2 tinmen. Stables,—3 hack; 25 livery; 74 private; 1 sale; 19 work. 9 steamboats; 11 steamships; 4 steam and gas pipe fitters. Stores,—24 apothecary; 1 auction; 16 boot and shoe; 1 carriage trimmings; 9 cigar; 15 clothing; 4 confectionery; 2 drug; 15 dry goods; 6 fancy goods; 7 flour and grain; 9 fruit; 6 furniture; 4 gent's furnishing goods; 46 grocery, retail; 14 grocery, wholesale; 3 hardware; 2 hide and leather; 1 hoop skirt; 10 house furnishing goods; 1 house paper; 3 iron and steel; 7 jewelry; 9 liquor; 1 lime and brick; 2 manufacturers' supplies; 7 millinery; 1 newspaper; 2 paints and oil; 2 paper and paper stock; 6 produce, wholesale; 2 sewing machine; 2 stationery; 2 stove; 3 tea; 2 trunk; 1 wool; 2 woolen goods; 15 not classed. 2 undertakers; 1 United

States Custom-house building ; 1 upholsterer ; 2 water boats ;
1 wheelwright ; 1 wood turner.

The average daily consumption of water for the last month, including leakage, has been about nine hundred and forty thousand gallons. In severely cold weather, a large amount is allowed by individuals to run to waste in order to prevent freezing. This is contrary to the rules and is unnecessary, provided that the plumbing has been properly done and that proper care is taken to let off the water in the pipes by turning the stop in the cellar. In cases where the stop is exposed to frost, it should be protected.

The amount of expenditures during the last quarter is

-	-	-	\$172,978 84
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The total amount of expenditures is,	-	2,270,507 14
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The total amount of appropriations is,	-	2,400,000 00
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The unexpended balance is	-	129,492 86
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The amount received during the last quarter, all of which has been paid to the City Treasurer is,

For Water Supplies,		\$10,928 89
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" water meters,	-	4,750 60
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" penalty,	-	2 00
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" sundries,	-	7,886 10
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		<hr/> 23,567 59
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The amount of receipts for water to date, (all having been received in 1872) is,

-	41,003 51
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The amount of all receipts to date is,	-	91,787 60
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An additional appropriation will probably be needed before the close of the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of Ledger, December 31, 1872, are hereunto appended and made parts of this report.

JOSEPH J. COOKE,

CHAS. E. CARPENTER,

WILLIAM CORLISS,

}

Water Commissioners.

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM OCTOBER 1, 1872, TO DECEMBER 31, 1872, INCLUSIVE.

2278	Providence and Worcester Railroad, transportation of stone (charged to Granite Railway Co.),	-	-	-	-	\$54 12
2279	Boynton Bros., & Elsbree, culvert wall, Reservoir Avenue,	-	-	-	-	82 60
2280	Providence Gas Co., rent of wharf,	-	-	-	-	175 00
2281	Providence Gas Co., gas,	-	-	-	-	10 71
2282	Thomas Phillips & Co., laying service pipes,	-	-	-	-	1,380 15
2283	R. D. Wood & Co., on account of water pipes,	-	-	-	-	17,500 00
2284	J. W. & J. J. Newman, trenching, back filling and laying water pipes,	-	-	-	-	10,600 00
2285	J. W. & J. J. Newman, setting hydrants, &c.,	-	-	-	-	491 00
2286	J. W. & J. J. Newman, carting pipes,	-	-	-	-	818 54
2287	Hopkins & Pomroy, carting bricks, &c.,	-	-	-	-	50 39
2288	Horace B. Bowen, hydrant and pipe bolts,	-	-	-	-	270 68
2289	Fales, Jenks & Sons, hydrants, hydrant boxes, water gates, &c.,	-	-	-	-	3,987 98
2290	Patrick Dougarety, labor on Sockanoset reservoir,	-	-	-	-	39 50
2291	Seth Clarke, cutting stone,	-	-	-	-	16 00
2292	J. W. & J. J. Newman, repairing streets, &c.,	-	-	-	-	163 78
2293	Fuller Iron Works, special castings,	-	-	-	-	1,464 11
2294	Builders' Iron Foundry, special castings,	-	-	-	-	509 51
2295	W. J. Glover, on account of covering engine and pipes at Pettaconset,	-	-	-	-	150 00
2296	Benjamin F. Gladding, on account of work on Natural Filter Basin,	-	-	-	-	100 00
2297	David Frank, damage, &c.,	-	-	-	-	150 00
2298	Stephen Knobb, carting granite,	-	-	-	-	106 76
2299	Boston & Providence Railroad, transportation of granite (charged to Granite Railway Co.),	-	-	-	-	41 21
2300	Schooner Hydrangea, freight of water pipes (charged to Warren Foundry and Machine Co.),	-	-	-	-	88 89
2301	R. D. Wood & Co., cast iron water pipes,	-	-	-	-	2,687 38
2302	Boston and Providence Railroad, transportation of granite (charged to Granite Railway Co.),	-	-	-	-	51 71
2303	Granite Railway Co., on account of granite for Hope Engine House,	-	-	-	-	9,000 00
2304	Boston and Providence Railroad, transportation of granite (charged to Granite Railway Co.),	-	-	-	-	30 60
2305	J. Wheldon & Sons, stone for Hope Engine House,	-	-	-	-	987 00
2306	Tucker, Swan & Co., coal,	-	-	-	-	965 14
2307	Providence and Worcester Railroad, transportation of stone (charged to Granite Railway Co.),	-	-	-	-	240 90
2308	Charles H. Pierce, salary as assistant engineer,	-	-	-	-	250 00
2309	Samuel M. Gray, " " " "	-	-	-	-	250 00
2310	Charles H. Swan, " " " "	-	-	-	-	106 67
2311	Otis F. Clapp, " " " "	-	-	-	-	208 33
2312	Howard A. Carson, " " " "	-	-	-	-	186 67
2313	William T. Schnelder, " " " "	-	-	-	-	100 00
2314	John E. Bowen, " " " "	-	-	-	-	83 33
2315	Calvin F. Allen, " " " "	-	-	-	-	88 33
Amount carried forward,						\$53,401 69

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward, -	-	-	-	53,401 69
2316	Charles F. Janes, salary as service pipe engineer, -	-	-	-	100 00
2317	William F. Janes, " asst. " " -	-	-	-	50 00
2318	Augustus F. Nagle, " mechanical " -	-	-	-	200 00
2319	J. Rayner Edmands, " asst. " " -	-	-	-	83 33
2320	Lucius J. Sampson, " student engineering department, -	-	-	-	41 67
2321	George H. Slade, " " " " -	-	-	-	41 67
2322	George F. Monro, " " " " -	-	-	-	37 36
2323	Henry N. Francie, " " " " -	-	-	-	33 33
2324	Lepilete Sweet & Co., " " " " -	-	-	-	33 33
2325	Edmund B. Weston, " " " " -	-	-	-	33 33
2326	Mark Wilmarth, " " " " -	-	-	-	33 33
2327	Louis R. Daniels, " " " " -	-	-	-	50 00
2328	Walter R. Jackson, " " " " -	-	-	-	25 00
2329	Edwin P. Dawley, " " " " -	-	-	-	25 00
2330	Daniel D. Waterman, " " " " -	-	-	-	41 67
2331	Daniel C. Stone, " temporary office asst. engineering department, -	-	-	-	25 40
2332	Walter F. Slade, " service pipe clerk, " " -	-	-	-	66 67
2333	William M. Longstreet, " clerk, " " -	-	-	-	61 29
2334	William H. Turner, " " " " -	-	-	-	83 33
2335	Richard M. Wood, " " at pipe yard, -	-	-	-	70 67
2336	George C. Harkness, " " " " -	-	-	-	63 50
2337	Andrew B. Purdy, " superintendent of pipe work, -	-	-	-	166 67
2338	Henry G. Dennis, " inspector on pipe line, -	-	-	-	106 00
2339	Samuel R. Eccleston, " " " " -	-	-	-	106 00
2340	Elbert Purdy, " " " " -	-	-	-	112 00
2341	Foster S. Dennis, Jr., " " " " -	-	-	-	106 00
2342	George Bowers, " " " " -	-	-	-	106 00
2343	William H. Patterson, " " " " -	-	-	-	106 00
2344	S. Horace Wheeler, " " of service pipe, -	-	-	-	106 00
2345	Frederic A. Arnold, " " " water fixtures, -	-	-	-	66 67
2346	Jesse E. Gray, " " at reservoir, -	-	-	-	10 00
2347	Jephtha Baker, " keeper of reservoir, -	-	-	-	75 00
2348	Thomas G. Bruce, " pumping engineer, -	-	-	-	125 00
2349	John Hamilton, " fireman, -	-	-	-	69 40
2350	Patrick McManis, " coal heaver, -	-	-	-	28 00
2351	John Kerns, " " " " -	-	-	-	12 20
2352	Peter O'Brien, " night watchman, -	-	-	-	60 00
2353	Thomas A. McDonald, " axeman, Sunday watchman, &c., -	-	-	-	78 80
2354	Michael Tallant, " axeman, -	-	-	-	48 00
2355	George F. Johnson, " care of rooms, -	-	-	-	57 24
2356	Lawrence Heeley, axeman, -	-	-	-	10 80
2357	Clinton D. Sellow, salary as secretary to Water Commissioners, -	-	-	-	166 67
2358	Philip S. Chase, " commissioners' clerk, -	-	-	-	100 00
2359	Thomas C. Gushee, " " " " -	-	-	-	67 67
2360	Joshua B. Chapin, services and expenses investigating Pawtucket river banks, -	-	-	-	194 61
2361	Charles H. Pierce, paid by him for sundries, -	-	-	-	101 56
2362	" " " " labor at wharf, -	-	-	-	231 24
2363	Wm. T. Schneider, " " " " pumping station, -	-	-	-	309 20
2364	Sidney S. Rider, stationery, &c., -	-	-	-	30 84
2365	Valpey, Perkins & Co., books and stationery, -	-	-	-	14 17
2366	Knowles, Anthony, & Danielson, advertising, -	-	-	-	9 88
2367	Wm. S. Briggs, horse hire by engineers, -	-	-	-	36 00
2368	Caleb Rodman, moving safe, -	-	-	-	15 00
2369	M. D. Copeland, teaming, -	-	-	-	87 50
	Amount carried forward, -	-	-	-	\$37,531 19

	Amount brought forward, -	\$37,531 19
2370	Matthew Campbell, horse shoeing, engineering department, -	12 00
2371	Wm. A. McKay, " " " -	8 00
2372	Daniel F. Burlingame, repairs to tools and labor at pumping station, -	27 63
2373	Benjamin F. Gladding, labor at pumping station, -	808 40
2374	Wm. H. Miller & Co., repairing tools, -	86 75
2375	Allen Fire Department Supply Co., altering street sprinklers, &c., -	120 54
2376	Union Water Meter Co., water meters, -	1,156 72
2377	J. W. & J. J. Newman, trenching, back filling and laying water pipes, -	5,000 00
2378	Boston Machine Co., post hydrants, -	252 00
2379	Florence Sullivan, labor on Reservoir Avenue, -	11 25
2380	Freeborn Potter, wood for pumping station, -	75 00
2381	John Mason, making models, labor furnished, &c., -	102 95
2382	Dexter Gorton & Co., carpenter's work, &c., -	432 43
2383	" " " lumber, carpenter's work, &c., -	1,168 29
2384	Stephen Knobb, carting granite, -	29 97
2385	Warren Foundry and Machine Co., water pipes, -	5,507 57
2386	Boston and Providence Railroad, transportation of granite, (charged to Granite Railway Co.), -	19 32
2387	Fales, Jenks & Sons, hydrants, hydrant boxes & covers, water gates, &c., -	13,926 00
2388	John Clancey, labor at Hope pumping station, -	12 00
2389	Smith & Beckwith, cutting curbstones for hydrant boxes, -	22 00
2390	Seth Clarke, stone cutter, Hope Engine House, -	125 50
2391	Fuller Iron Works, special castings, &c., -	2,017 84
2392	J. W. & J. J. Newman, setting hydrants, -	240 00
2393	" " " carting pipes, -	509 65
2394	Butts & Mason, lamp black, Hope Engine House, -	28 10
2395	J. W. & J. J. Newman, trenching, back filling and laying water pipes, -	10,700 00
2396	Stephen Knobb, carting stone for Hope Engine House, -	37 05
2397	J. W. & J. J. Newman, repairing streets, &c., -	167 89
2398	Builders' Iron Foundry, special castings, -	1,099 08
2399	W. A. Burdick, Agt. on account granite work for Hope Engine House, -	2,000 00
2400	Marshall Woods, rent of offices, -	305 47
2401	T. & W. Breck, rent of offices, -	750 00
2402	Thomas Phillips & Co., on account laying service pipes, -	1,450 00
2403	" " " excavation at Hope Engine House, -	355 59
2404	Patrick Dougharety, labor at Sockanosset Reservoir and Hope Engine House, -	50 60
2405	Lydia A. Harris, damage, -	50 00
2406	Benjamin F. Gladding, on account work on Natural Filter Basin, -	200 00
2407	Manuel Joseph, labor on Sockanosset Reservoir, -	7 00
2408	Frank Silva, " " " -	10 00
2409	Providence and Worcester Railroad Co., transportation of stone, -	85 30
2410	Stephen Knobb, carting granite for Hope Engine House, -	134 18
2411	Providence and New York Steamship Co., freight on roof of Hope Engine House, -	55 27
2412	Diana S. Parkhurst, Guardian of Harris I. Carpenter, right of way for water pipes through land near railroad bridge on Reservoir Avenue, -	500 00
2413	Boston and Providence Railroad, transportation of bricks, &c., -	160 56
2414	Charles H. Pierce, salary as assistant engineer, -	250 00
2415	Samuel M. Gray, " " " -	250 00
2416	Charles H. Swan, " " " -	166 67
2417	Otis F. Clapp, " " " -	208 33
2418	Howard A. Carson, " " " -	166 67
2419	William T. Schneider, " " " -	100 00
	Amount carried forward, -	\$108,390 70

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward.						\$106,360 70
3430	John E. Bowen,	salary as assistant engineer,	-	-	-	98 33
3431	Calvin F. Allen,	" " " "	-	-	-	83 33
3432	Charles F. Janes,	" service pipe,	"	-	-	100 00
3433	William F. Janes,	" asst. " "	-	-	-	50 00
3434	Augustus F. Nagle,	" mechanical,	"	-	-	300 00
3435	J. Rayner Edmunds,	" assistant,	"	-	-	83 33
3436	Lucius J. Sampson,	" assistant,	"	-	-	73 61
3437	George H. Slade,	" student, engineering department,	-	-	-	41 67
3438	George F. Munro,	" " " "	-	-	-	41 67
3439	Henry N. Francis,	" " " "	-	-	-	33 33
3430	Lepriele Sweet 2d,	" " " "	-	-	-	39 17
3431	Edmund B. Weston,	" " " "	-	-	-	33 33
3432	Mark Willmarth,	" " " "	-	-	-	33 33
3433	Louis R. Daniels,	" " &c., " "	-	-	-	58 00
3434	Walter R. Jackson,	" " " "	-	-	-	25 00
3435	Edwin P. Dawley,	" " " "	-	-	-	25 00
3436	Daniel D. Waterman,	" " " "	-	-	-	41 67
3437	Walter F. Slade,	" service pipe clerk,	"	-	-	66 67
3438	William H. Turner,	" clerk engineering department,	-	-	-	83 33
3439	Daniel C. Stone,	" temporary office assistant, engineering dep't,	-	-	-	33 40
3440	Joseph M. Cooke,	" " " "	-	-	-	55 00
3441	Richard M. Wood,	" clerk at pipe yard,	-	-	-	66 67
3442	Andrew B. Purdy,	" superintendent of pipe work,	-	-	-	166 67
3443	Henry G. Dennis,	" inspector on pipe line,	-	-	-	100 00
3444	Samuel R. Eccleston,	" " " "	-	-	-	100 00
3445	Eibert Purdy,	" " " "	-	-	-	104 00
3446	Foster S. Dennis, Jr.,	" " " "	-	-	-	100 00
3447	George Bowers,	" " " "	-	-	-	104 00
3448	William H. Patterson,	" " " "	-	-	-	100 00
3449	Frederic A. Arnold,	" " of water fixtures,	-	-	-	66 67
3450	Jeppha Baker,	" keeper of reservoir,	-	-	-	77 50
3451	Thomas G. Bruce,	" pumping engineer,	-	-	-	87 50
3452	John Hamilton,	" fireman,	-	-	-	99 80
3453	John Kerns,	" coal heaver,	-	-	-	63 00
3454	Peter O'Brien,	" night watchman,	-	-	-	63 00
3455	Thomas A. McDonald,	" engineer of drainage engine,	-	-	-	96 30
3456	Michael Tallant,	" axeman,	-	-	-	23 30
3457	Lawrence Heeley,	" " " "	-	-	-	52 00
3458	George F. Johnson,	care of rooms,	-	-	-	55 24
3459	Clinton D. Sellew,	salary as secretary to water commissioners,	-	-	-	166 67
3460	Phillip S. Chase,	" commissioners' clerk,	-	-	-	100 00
3461	Thomas C. Gushee,	" " " "	-	-	-	66 67
3462	Charles H. Pierce,	paid by him for sundries,	-	-	-	90 09
3463	" " " "	" labor at wharf,	-	-	-	339 34
3464	William T. Schneider,	" " " pumping station,	-	-	-	203 90
3465	Sidney S. Rider & Bro.,	stationery, &c.,	-	-	-	40 14
3466	Wm. S. Briggs,	horse hire by engineers,	-	-	-	21 00
3467	M. D. Copeland,	teaming,	-	-	-	68 25
3468	Stephen Knobb,	carting stone, &c., for Hope Engine House,	-	-	-	15 35
3469	A. W. Page,	tallow for pumping station,	-	-	-	23 13
3470	George F. Shedd,	plumb bobs,	-	-	-	17 00
3471	J. A. Gowdey & Son,	brass tape,	-	-	-	6 66
3472	Boston Machine Co.,	post hydrants, &c.,	-	-	-	211 00
3473	Dexter Gorton & Co.,	lumber, &c.,	-	-	-	40 75

Amount carried forward,

\$112,623 36

	Amount brought forward,	\$112,622 26
2474	C. P. Lobdell, labor on granite, charged to Granite Railway Co.,	5 50
2475	Benjamin F. Gladding, labor at pumping station,	1,536 20
2476	William E. Taber & Son, clock,	26 00
2477	Charles H. Pierce, paid by him for labor at wharf,	52 16
2478	Hale & Burrough, lime,	469 19
2479	William H. Miller & Co., repairing tools,	154 63
2480	Union Water Meter Co., water meters,	826 95
2481	J. B. & J. M. Cornell, on account of roof of Hope Engine House,	3,006 00
2482	Charles H. Pierce, paid by him for labor on Hope Engine House and Sockanosset reservoir,	325 39
2483	Providence and New York Steamship Co., freight on water pipes,	63 79
2484	Horace B. Bowen, hydrant bolts,	106 58
2485	Seth Clarke, cutting stone,	83 50
2486	J. W. & J. J. Newman, setting hydrants,	406 00
2487	" " " " carting pipes,	458 14
2488	" " " " trenching, back filling and laying water pipes,	7,660 00
2490	Fales, Jenks & Sons, on account of hydrants, hydrant boxes, water gates, &c.,	28 00
		6,608 60
2491	William D. Andrews & Bro., repairs on drainage pump and engine,	58 60
2492	Thomas G. Bruce, services as pumping engineer,	138 33
2493	W. A. Burdick, Agt., on account of granite for Hope Engine House,	3,000 00
2494	S. F. & J. A. Gray, bricks for Hope Engine House,	1,114 34
2495	Benjamin F. Gladding, on account labor on Natural Filter Basin,	300 00
2496	Stephen Knobb, carting granite,	64 65
2497	Builders' Iron Foundry, special castings, screw piles, &c.,	2,112 42
2498	Fuller Iron Works, special castings,	2,436 57
2499	Read & Richards, on account of construction Hope Engine House,	1,500 00
2500	J. W. & J. J. Newman, laying water pipes, repairing streets, &c.	887 65
2501	Hopkins & Pomroy, carting bricks and stone, &c.,	274 50
2502	Providence and Worcester Railroad Co., transportation of stone,	200 45
2503	Tucker, Swan & Co., coal,	530 16
2504	Thomas Phillips & Co., laying service pipes,	690 33
2505	Charles H. Pierce, paid by him for labor on Hope Engine House, &c.,	125 80
2506	Taunton Brick Co., on account for bricks,	2,400 00
2507	Fales, Jenks & Son, hydrants, boxes, water gates, &c.,	8,550 00
2508	J. Herbert Shedd, salary as chief engineer,	2,000 60
2509	Charles H. Pierce, " assistant engineer,	250 00
2510	Samuel M. Gray, " " " "	250 00
2511	Charles H. Swan, " " " "	166 67
2512	Otis F. Clapp, " " " "	208 33
2513	Howard A. Carson, " " " "	166 67
2514	William T. Schneider, salary as assistant engineer,	100 00
2515	Calvin F. Allen, " " " "	83 33
2516	John E. Bowen, " " " "	100 00
2517	Lucius J. Sampson, " " " "	88 33
2518	Charles F. Jones, one half salary as service pipe engineer,	50 00
2519	William F. Jones, salary as assistant service pipe " "	50 00
2520	Augustus F. Nagle, " " " " mechanical " "	200 00
2521	J. Rayner Edmonds, one half salary as assistant " " " "	41 67
2522	George H. Slade, salary as student, engineering department,	41 67
2523	George F. Monro, " " " " " "	41 67
2524	Henry N. Francis, " " " " " "	33 33
2525	Lepilete Sweet 2d, " " " " " "	41 67

Amount carried forward,

\$163,316 04

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward, . . .		\$161,816 04
2536	Edmond B. Weston, salary as student, engineering department, .	33 33
2537	Mark Wilmarth, " " " " .	33 33
2538	Louis R. Daniels, " " " " &c., .	58 00
2539	Walter R. Jackson, " " " " .	25 00
2530	Edwin P. Dawley, " " " " .	25 00
2531	Daniel D. Waterman, " " " " .	41 67
2532	Walter F. Slade, service pipe clerk, .	66 67
2533	William H. Turner, clerk, engineering department, .	83 33
2534	Daniel C. Stone, temporary office asst., engineering dept. .	24 00
2535	Joseph M. Cooke, " assistant, &c., " .	50 00
2536	Andrew B. Purdy, superintendent of pipe work, .	166 67
2537	Henry G. Dennis, " inspector on pipe line, &c., .	116 71
2538	Samuel R. Eccleston, " " " " &c., .	100 00
2539	Elbert Purdy, " " " " .	100 00
2540	Foster S. Dennis, Jr., " " " " .	100 00
2541	George Bowers, " " " " .	100 00
2542	Richard M. Wood, clerk at pipe yard, .	66 67
2543	Jeptha Baker, keeper of reservoir, .	75 00
2544	George F. Battey, pumping engineer, .	65 06
2545	John Hamilton, fireman, &c., .	109 85
2546	Daniel Lorigan, " " " " .	12 50
2547	John Kerns, coal heaver, &c., .	62 40
2548	Thomas A. McDonald, engineer of drainage engine, .	97 10
2549	William Thomas, " " " " .	15 00
2550	William Mahanna, foreman, Natural Filter Basin, .	87 10
2551	Peter O'Brien, night watchman, .	60 00
2552	Lawrence Heeley, axeman, .	48 00
2553	Frederic A. Arnold, salary as inspector of water fixtures, .	66 67
2554	Thomas C. Gushee, salary as Commissioners' clerk, .	66 67
2555	Philip S. Chase, " " " " .	100 00
2556	Joshua B. Chapin, services connected with the subject of impurities in the Pawtuxet and its tributaries, .	93 13
2557	Clinton D. Sellow, salary as Secretary to Water Commissioners, .	166 67
2558	Joseph J. Cooke, services as Water Commissioner, .	500 00
2559	Charles E. Carpenter, " " " " .	500 00
2560	William Corliss, " " " " .	500 00
2561	Asa Sisson, inspector of pipes, .	140 00
2562	George F. Johnson, care of rooms, .	55 24
2563	Alfred Stone, architectural services, Hope pumping station, .	500 00
2564	Charles H. Pierce, paid by him for labor at wharf, &c., .	177 50
2565	" " " " sundries, .	76 91
2566	William T. Schneider, " labor at pumping station, .	169 80
2567	Sidney S. Rider & Bro., stationery, &c., .	12 45
2568	Joseph J. Cooke, paid sundry office expenses, &c., for one year, .	80 16
2569	Ross & Walker, tan bark, .	6 00
2570	James Crawford, lettering signs, .	6 00
2571	M. D. Copeland, teaming, .	78 75
2572	George W. Hall & Co., bricks, &c., .	73 75
2573	Benjamin F. Gladding, labor at pumping station, .	1,818 80
2574	Warren S. Bliss, stove and pipe for drainage pump room at Pettaconset, .	12 23
2575	N. Webber, rubber boots, .	11 00
2576	T. W. Hart, horse hire, Commissioners, .	18 00
2577	Providence Gas Co., rent of wharf, .	175 00
2578	" " " gas, .	25 76

Amount carried forward, . . . \$170,568 90

	Amount brought forward,	\$170,598 90
2579	R. S. Burrough & Co., lard oil,	84 87
2580	G. & C. P. Hutchins, gas fixtures, oil, &c.,	78 11
2581	Cleveland Brothers, office furniture, &c.,	40 59
2582	Union Water Meter Co., water meters,	1,467 95
2583	William H. Miller & Co., repairing tools, &c.,	18 91
2584	Dexter Gorton & Co., lumber, gate boxes, &c.,	779 51
		<hr/>
		\$172,984 84

RECEIVED FROM OCTOBER 1, 1872, TO DECEMBER 31, 1872, INCLUSIVE, AND PAID TO THE CITY TREASURER.

1872.		
October	8. Of Peleg P. Cranston, for three months rent of "Randall Estate," so called, in Pawtuxet, to October 1, 1872,	\$50 00
	10. Of Keystone line of steamships, for labor and materials,	116 29
	12. Of Burrows Chace, for three months rent of farm in Warwick, purchased of Miss Patience W. Chace, to October 1, 1872,	43 75
	12. Of Fall River Iron Works for labor and materials,	257 84
	15. Of City of Providence, for city drinking fountain,	149 97
	15. Of City of Providence, for sewer expenses,	264 43
	19. Of Taft, Weedon & Co., for labor and materials,	165 85
November	2. Of S. M. Gray, for sundries,	14 25
	8. Of Harrison Steam Mill, for labor and materials,	143 47
	13. Of Fales, Jenks & Sons, for wharfage, &c.,	14 14
	30. Of Providence Gas Company, for labor and materials,	75 36
December	3. Of Thomas Hannay, for three months rent of estate purchased of Miss Julia Bullock, to December 1, 1872,	75 00
	8. Of Groton Manufacturing Company, for labor and materials,	87 55
	5. Of Charles F. & John M. Hull, for labor and materials,	158 88
	6. Of S. M. Gray, for sundries,	9 50
	6. Of Providence Tool Company Armory, for labor and materials,	353 06
	9. Of Alva Carpenter, for old iron,	177 08
	14. Of Dexter Asylum, for labor and materials,	126 29
	18. Of Perkins Sheet Iron Company, for labor and materials,	134 47
	18. Of Sprague Mowing Machine Company, for labor and materials,	107 79
	18. Of Charles H. Perkins, for labor and materials,	17 16
	18. Of Charles F. & John M. Hull, for labor and materials,	8 66
	21. Of Richmond Manufacturing Company for labor and materials,	5,390 57
	26. Of J. H. Joslin & Son, for wharfage,	16 43
	31. For water during the quarter,	10,928 89
	31. For meters during the quarter,	4,750 60
	31. For penalties during the quarter,	2 00
		<hr/>
		\$23,567 59

TRIAL BALANCE OF LEDGER, DECEMBER 31, 1872.

Dr.

Hope Reservoir for land, . . .	\$124,101 32
" " " sundries, . . .	286 97
" " " labor, . . .	49 50
" engine house, . . .	9,491 71
Sockanosset Reservoir, for sundries, . . .	587 52
" " " land, . . .	16,074 35
" " " construction, . . .	177,870 72
" " " watch, . . .	909 25
" " " gate houses, . . .	79 22
" " " drain, . . .	1,638 72
" " " inspection, . . .	6,819 18
" " " extra work and materials, . . .	189 70
" " " gate chambers, . . .	9,981 96
Line of leading mains, for labor and materials, . . .	19,799 77
" " " " extra trenching, &c., . . .	305 95
" " " " land and damages, . . .	1,665 00
Force main line, for land and damages, . . .	3,006 35
" " " " labor and materials, . . .	5,099 28
" " " " extra trenching, &c., . . .	332 56
Office furniture, stoves, gas fixtures, &c., . . .	1,186 64
Rent of offices, . . .	2,200 00
Books, stationery, &c., . . .	641 19
Fuel and lights, . . .	220 26
Horse hire by Commissioners, . . .	19 00
Janitor of rooms, . . .	346 00
Traveling expenses of Commissioners, . . .	122 62
Clerks' salaries, . . .	3,223 98
Commissioners' salaries, . . .	19,708 79
Secretary's salary, . . .	1,166 69
Sundries, . . .	296 51
Printing, . . .	1,167 40
Advertising, . . .	1,292 46
Fences, . . .	2,050 38
Stop valves, . . .	44,439 70
Store-house and work-shop, . . .	749 06
Tools, . . .	4,470 21
Labor on pipes, . . .	9,294 57
Rent of wharves and pipe yards, . . .	2,519 78
Cast iron water pipes, . . .	880,630 59
Special castings, . . .	65,446 75
Linking curved pipes, . . .	232 75
Lumber, . . .	1,455 71
Amount carried forward, . . .	\$1,421,170 37

Amount brought forward,	\$1,421,170 37
Fire hydrants,	68,080 00
Sockanosset hill cross-road,	3,849 00
Pettaconset and Sockanosset telegraph line,	1,707 94
Dwelling houses at Pettaconset,	3,890 39
Culverts and bridge on line of force mains,	6,775 33
" at Pettaconset,	3,557 92
Real estate in Warwick,	13,110 04
Water privileges, mill, and other real estate in	
Pawtuxet,	50,231 06
Pettaconset pumping station, for land,	1,323 20
Pochasset bridge,	5,509 72
Wharf salaries,	4,051 55
Temporary engine house at Pettaconset,	8 464 57
Engine house " "	2,301 41
Natural filter basin,	11,901 00
Roads, slopes, &c., at Pettaconset,	9 027 79
Removing loam,	462 05
Iron screw piles,	3 752 71
Hydrant bolts,	1,104 34
Pipe bolts,	1,135 47
Photographs,	147 00
Hydrant heads,	5 104 59
Taps and stops,	13,567 06
Valve covers,	5 077 08
Service pipe,	9,357 27
Hydrant boxes,	18,474 70
Setting fire hydrants,	7,115 33
Valve boxes,	19,965 38
Check valves,	1,412 48
Air cocks, boxes, covers and setting,	462 00
Night and Sunday Watch at engine house,	1,002 50
Pettaconset pumping station, for sundries,	2,021 63
" " " " engineer,	1,764 53
" " " " coal and wood,	4,593 23
" " " " labor on fuel,	474 03
" " " " firemen,	987 90
Setting blow-offs,	265 66
Ascertaining and removing nuisances on Pawtuxet	
river,	479 46
Freeborn Johnson & Co.,	3 500 00
J. B. & J. M. Cornell,	3,056 77
Builders' Iron Foundry,	6,555 00
J. W. & J. J. Newman,	131,200 00
Taunton Brick Co.,	2 444 19
W. A. Burdick, agent,	8,019 50
Granite Railway Co.,	9,922 71
Read & Richards,	3,900 00
Town of Cranston,	5,000 00
Amount carried forward,	\$1,887,360 66

REPORT OF THE WATER COMMISSIONERS.

25

Amount brought forward, . . .	\$1,887,360 68	
A. & W. Sprague Manufacturing Co., . . .	2 500 00	
Thomas Phillips & Co., . . .	8,000 00	
David Cady & Co., . . .	90 92	
City Treasurer, . . .	50,786 09	
City Treasurer, for water payments, . . .	41,003 51	
Testing pipe iron, . . .	443 50	
Iron drain pipes and gate, . . .	224 21	
Carting pipes, . . .	23,899 36	
Counsel fees, . . .	3,400 00	
Inspection of pipes, . . .	6,587 14	
Inspection of pipe laying, . . .	14,976 52	
Inspection of water fixtures, . . .	832 11	
Testing bolts and composition castings, . . .	34 25	
Laying water pipes, . . .	112,512 43	
Laying service pipes, . . .	11,377 36	
Laying suction pipes, &c., . . .	85 00	
Drainage pump and engine, . . .	2,710 49	
Hydrants for street sprinklers, . . .	1 425 83	
Water meters, . . .	17,677 27	
Worthington pumping engine, . . .	35,911 16	
		\$2,221,367 81

ENGINEERING DEPARTMENT—

For Instruments, . . .	\$2,155 45	
Tools, . . .	549 85	
Furniture, stoves, gas fixtures, &c., . . .	2,165 13	
Books, stationery, &c., . . .	1,866 40	
Labor, . . .	3,471 48	
Draughting, . . .	3,504 77	
Horse and wagon account, . . .	1,076 33	
Horse keeping, shoeing, &c., . . .	973 44	
Horse hire, . . .	1,673 40	
Rent of offices, . . .	3,790 61	
Fuel and lights, . . .	519 19	
Janitor of rooms, . . .	664 26	
Experimental filter, . . .	91 08	
Sundries, . . .	1,534 98	
Test wells, . . .	1,579 40	
Consultations, . . .	320 00	
Office building at Pettaconset, . . .	553 21	
Office building at Sockanosset reservoir, . . .	563 22	
Stakes and strips, . . .	623 82	
Printing, . . .	135 57	
Maps, . . .	86 67	
Service pipe experiments, . . .	295 76	
Salaries, . . .	80,226 56	
Temporary assistance, . . .	6,390 12	114,810 70
Amount carried forward, . . .		\$2,336,178 51

Amounts brought forward, . . .	\$2,336,178 51
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OR.

Hope Reservoir, for land, (rents received and build- ings, &c., sold), . . .	\$3,853 42
Sockanomset Reservoir, for land, (rents received and wood, &c., sold), . . .	1,444 49
Real estate in Warwick, (rents received), . . .	431 25
Pettaconset pumping station, for land, (rents received), . . .	278 75
Water privileges, mill, and other real estate in Paw- tuxet, (rents received), . . .	1,789 53
Interest,	54 66
Water meters,	16,745 40
Penalties,	14 00
Water,	41,003 51
Boston hydrants,	56 36
Approved Bills,	2,270,507 14
	<hr/> \$2,336,178 51

DETAILS OF THE PUBLIC TEST OF FIRE HYDRANTS,
NOVEMBER 23, 1872.

FACTS IN RELATION TO THE WATER WORKS, ILLUSTRATIVE OF
THEIR VALUE AS A PROTECTION AGAINST FIRE.

MAYOR'S OFFICE,
CITY OF PROVIDENCE, December 4, 1872. }

GENTLEMEN: If you have the facts at your command, will you be kind enough to furnish me with information on the following points, viz.:

The height of the head of water in the city of Boston, of the public Water Works; the kind (description) of fire hydrant in use there, capacity &c.; the size of pipe supplying such hydrants; their distance from each other, and any other information in relation to the power of the Boston Water Works for the extinguishment of fires which you may deem of importance.

I desire to contrast our facilities for the same service, with those of Boston, and I should be glad to receive from you such suggestions in relation to the recent hydrant test in this city, or such information in reference to it, as you may be willing to communicate.

Respectfully, &c.,

THOMAS A. DOYLE, Mayor.

Messrs. JOSEPH J. COOKE,
CHAR. E. CARPENTER and
WILLIAM CORLISS,
Water Commissioners.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, R. I., December 16th, 1872. }

HON. THOMAS A. DOYLE, Mayor:

DEAR SIR:—In answer to your communication of the 4th instant, we have the pleasure of handing you herewith, a copy of a communica-

tion, dated 5th instant, addressed by us to J. Herbert Shedd, Esq., Chief Engineer, and a copy of his reply of this date thereto, embracing the desired information.

Yours respectfully,

JOSEPH J. COOKE,	}	<i>Water</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		
		<i>Commissioners.</i>

OFFICE OF BOARD OF WATER COMMISSIONERS, }
PROVIDENCE, R. I. December 5th, 1872. }

J. HERBERT SHEDD, ESQ., CHIEF ENGINEER :

DEAR SIR: You will receive herewith a copy of a communication this day received from His Honor the Mayor, asking for such facts in relation to the Boston Water Works as will enable him properly to contrast the facilities of that city, for the extinguishment of fires, so far as Water Works are concerned, with our own; particularly as shown by the latter in the recent public test of hydrants.

Will you please furnish us as early as may be convenient, with the necessary data for an answer to his communication.

You would also much oblige us by general remarks in relation to the advantage derived from the connection made across Westminster bridge, since the test referred to; the advantage to be derived from the connections of thirty inch pipes to be made at the junction of Public and Greenwich streets, so soon as Public street, from Prairie avenue to Greenwich street, shall be graded; the increased supply from the second line of mains from Sockanosset reservoir to the railroad bridge on Reservoir avenue, when laid; the advantage in case of a large fire by connecting the high service distribution when in operation, with the present low service, and, finally, the advantages which will ensue from the completion of Hope Reservoir, with its 80,000,000 gallons of water close at hand.

Yours respectfully,

JOSEPH J. COOKE,	}	<i>Water</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		
		<i>Commissioners.</i>

PROVIDENCE, December 16, 1872.

Messrs. JOSEPH J. COOKE,
CHARLES E. CARPENTER,
WILLIAM CORLISS, Water Commissioners;

GENTLEMEN:—In reply to your communication requesting certain facts, to be used in contrasting the facilities for extinguishing fires by the Water Works in the city of Boston, with those of our own Water Works, I respectfully submit the following :

The average height of water in the Brookline reservoir, five miles from Beacon Hill, is 123 feet above mean high tide in Boston harbor (Maximum high water in the reservoir is 124.60.)

Average height of water in Beacon Hill reservoir, 117 feet.

Average height of water in South Boston reservoir, 112 feet.

Average height of water in East Boston reservoir, 93 feet.

Estimated average height for Roxbury district, 118 feet.

The hydrant generally used in Boston has one outlet two and a half inches in diameter for the attachment of hose. Two patterns are usually employed—known as the Lowell and the Wilmarth. The Lowell hydrant has a conical valve above which the barrel or water passage is about three inches in diameter, from which a side branch two and a half inches in diameter runs to the hose attachment. The valve stem passes through the barrel, which is three inches in diameter, taking a portion of its area. The Wilmarth hydrant has a flat valve, shutting against the pressure of water, over an opening two and three-quarters inches in diameter, with a barrel three inches in diameter leading to the hose attachment. Larger hydrants of the Lowry pattern, having a movable head, with several outlets, are used in the Roxbury and Dorchester districts.

The single nozzle hydrants of Boston proper, which are usually from two hundred and fifty to three hundred feet apart, are supplied from the street mains by pipes four inches in diameter.

Probably these supply pipes, as well as the mains generally, through the burnt district in Boston, have their capacity lessened by the formation of tubercles in the water way, the process of coating with coal tar, now generally practiced for water works, not having been applied in this country at the time these pipes were laid.

The burnt district is nearly surrounded by pipes of good size. A main of twenty four inches diameter, is laid in Washington street, from which a sixteen inch pipe runs in Milk street to Pearl, and through Pearl to Broad street, from which a twelve inch pipe runs through Broad, Summer and Bedford to Washington street, the greater portion of Summer street being supplied by a six inch pipe.

All the other streets of the district are supplied by six inch and four inch pipes, much the larger portion being six inch.

The area burnt over is about 59* acres, on which there are 57 hydrants, 11 of them being on four inch mains and the others on six inch mains or larger.

For the facts above stated, I have depended upon the official documents and papers of the Cochituate Water Board, upon verbal statements to me of their officers in charge, and upon my personal knowledge and examination of the works.

The ordinary high water of Sockanosset Reservoir, 5.4 miles from the City Building in Providence, is 180.5 feet above mean high tide in Providence harbor.

It is intended, to construct Hope Reservoir in the city, with an ordinary high water level, 162.5 feet above tide.

The smallest pipe used for street mains is six inches in diameter. The city is cut into districts by larger pipes, intended to furnish any given section with an abundant supply of water in case of fire, without undue loss of head. The largest mains are thirty inches in diameter.

The hydrant uniformly used was designed for these works. It is formed in two parts, one horizontal, about seven feet long, another vertical, about four and a half feet long, which are firmly attached to each other before leaving the manufacturer. The horizontal part when set connects with the street main. The water way from the street main to the surface of the sidewalk is eight inches in diameter, except at the sidewalk where the contraction of the stream which supplies the lines of hose is begun. Great care was taken in designing the hydrant, to secure uniform capacity throughout, and not to lessen the head or pressure by changes in the direction of, or by enlarging or contracting, the stream in its flow. A diffuser is placed in the movable head for a similar purpose. This head has six outlets, separately controlled by gates from which six lines of 2½ inch hose can be supplied from each hydrant.

All the pipes and the hydrants are coated with coal tar varnish to prevent the formation of tubercles, which gives for the present, at least, a very smooth surface.

The hydrants are intended to be an average distance of not more than four hundred feet apart.

In Boston, the length of pipe, less than 24 inches diameter, laid for each hydrant is about 428 feet. In Providence to the present time, the length is about 600 feet. This shows the relative frequency of hydrants in the two places, but it will be borne in mind that, as before stated, while the Boston hydrants, with exceptions in the Roxbury and Dorchester districts have but one outlet, the Providence hydrants have six.

* Including wharves and streets, excluding docks, the City Surveyor of Boston computes the area at 65 acres.

In the test of hydrants referred to in your communication, there were 24 streams from 5 different hydrants, two of them supplying 6 streams each and the others 4 streams each. All the apparatus employed was such as is ordinarily used in case of fire. So far as I can now learn, 14 of these streams were through 1 inch nozzles, 8 through $1\frac{1}{2}$ inch nozzles, 1 through $\frac{3}{4}$ inch and 1 through $1\frac{1}{4}$ inch nozzles.

From the hydrant on the corner of Market Square and North Main street, two streams, each through 100 feet of hose and 1 inch nozzles, were thrown about 80 feet above the sidewalk, or 92 feet above tide.

Two other streams, each through 200 feet of hose and 1 inch nozzles, thrown from the top of What Cheer Building, about 75 feet above the sidewalk, rose about 110 feet above the sidewalk, or 122 feet above tide.

From the hydrant on the corner of Westminster and Dyer streets three streams were thrown through 1 inch nozzles and three through $1\frac{1}{2}$ inch nozzles. Two of the streams discharged from the roof of the Merchants Bank Building, through 200 feet of hose, about 73 feet above the sidewalk, reached an elevation about 119 feet above the sidewalk, or 126 feet above tide. The other streams, thrown from the ground through 50 feet of hose, reached about 100 feet above tide.

From the hydrant near the Journal office, four streams were thrown; two of them through 200 feet of hose, from the top of Atlantic Insurance Building, about 74 feet above the sidewalk, were thrown about 116 feet above the sidewalk or 122 feet above tide.

Six streams, through 1 inch nozzles were thrown from the hydrant on the corner of Exchange place and Washington Row, reaching as inclined streams from 70 to 78 feet above the ground, or about 79 to 87 feet above tide.

Four streams were thrown from the hydrant on the corner of South Water and Leonard streets, through 50 feet of hose, reaching an extreme height of 101 feet above the sidewalk or 107 feet above tide. Two streams were afterwards played from this hydrant through 300 feet of hose; one passed through an engine, the other played from the ground, rose 88⁺ feet above tide.

Two $\frac{3}{4}$ -inch streams were being thrown, while the twenty-four streams were on, from the roof of the Butler Exchange, 96 feet above tide, reaching a height of about 40 feet above the roof, or 136 feet above tide. These streams were also thrown a horizontal distance, on the roof, of 98 feet.

The twenty four streams played by the fire department were in operation about thirty-six minutes, beginning at 3 p. m.

The loss of head on the distribution of the city during the trial was less than I anticipated.

* Since the date of the communication, reliable evidence has been received that in this experiment the hose was partially cramped.

The height of water in the reservoir, 5.4 miles from the scene of trial, was about $177\frac{1}{2}$ feet above tide.

An observation on the "East Side" of the city, beyond the scene of trial from the reservoir, extending through the hour from 3 to 4 p. m., indicated a loss of head of only about 17 feet during the trial.

The reservoir was being supplied by an engine pumping at the rate of about 4.6 million gallons in 24 hours, while the hydrant streams were discharging, I suppose, at the rate of about 7 million gallons in 24 hours, and the city was probably using at the rate of a million gallons more. Notwithstanding the excess of draft over the supply, the reservoir continued to fill slowly during the trial, but it continued to supply to the city an excess over the usual quantity until after 5 p. m., so that the excess of draft for 36 minutes in the city seemed to be spread over 2 hours at the reservoir. The distribution pipes for the high service are still in communication with the low service, and some of the pipes lie higher than Sockanosset Reservoir, and are filled with water as high as it will rise. Undoubtedly an increased loss of head during the trial caused water to be drawn from these pipes, as it will eventually cause water to be drawn from our city reservoir, but the amount supplied in this way seems insufficient to account for the facts above indicated. Whatever amount of air laid in the street mains or was otherwise confined in the distribution, must have expanded when the pressure was reduced, and contracted again when it was increased, thus acting as a regulating reservoir. There are seventy miles of pipes laid on the work, in which air might collect more or less. Air is also set free from water when the pressure is lessened.

I see no good reason to doubt the general correctness of the observations at the reservoir, though they may have been inaccurate, and a slight difference in reading the height of water over the large area of the reservoir would account for what is not otherwise accounted for.

The capacities of pipes to carry water, at a given velocity, are nearly as their areas, which are directly as the squares of their diameters. The loss of head resulting from the flow of a given quantity of water through pipes of different diameters is nearly as the $2\frac{1}{2}$ power of the velocity, that being inversely as the square of the diameter.

To illustrate:—The area of a three inch pipe is to the area of an eight inch pipe as the square of 3=9 is to the square of 8=64 or nearly as 1 to 7. The capacity of an eight inch pipe is, then, more than seven times as great as that of a three inch pipe. But the loss of head or pressure in forcing a given quantity of water in a given time through these pipes would be about as the $2\frac{1}{2}$ power of 7 to the $2\frac{1}{2}$ power of 1, or 129 times as much pressure would be lost in the three inch pipe as would be lost in the eight inch pipe. Corrections for greater accuracy would be in favor of the discharge of the eight inch pipe.

Ordinary fire hydrants with a 3 inch water way have a smaller relative passage for water and more abrupt turns in the valve way than in our 8 inch hydrant.

Disturbances in the uniformity of flow cause loss of head. Abrupt changes in the direction, with high velocity, cause very great loss. Experiments have shown that in the passage of water through a common globe valve, ten times as much pressure is lost as in the passage of water at the same velocity through a pipe of the same nominal capacity.

If the distribution and appurtenances are not so arranged as to give low velocities and easy flow, a great loss of head results, and persons who fail to appreciate the causes of such loss are often disappointed in their expectations in regard to the height of stream to be got from a new water supply.

One of our principal cities has water in its distributing reservoir 217 feet above tide, which gives a supply about 195 feet above the central portion of the city, but the supply for fire is only at an average of 40 pounds pressure, equal to 92.4 feet head, and in the higher portions of the city only a pressure of from 10 to 15 pounds is obtained. In this case more than a hundred feet of head is lost and the supply is scarcely sufficient for ordinary fires. Smaller mains are laid in the streets of that city that in any other that I know about.

In Boston, during the great fire, "no water could be obtained from the hydrants without the aid of engines, and after the fire, when the engines had ceased playing, a stream from a hydrant would rise from thirty to thirty-five feet."

Though it is stated in the report of a committee of the City Council on the reorganization of the Boston Fire Department, made in 1851, "that the Cochituate water rises in the hose attached to the hydrants to a height and with a force that is amply sufficient to reach and extinguish fires on the roofs of the loftiest buildings in two-thirds or three-fourths of the entire city," yet those who planned the works seem not to have expected this, as the Engineer, in his report to the Water Board in 1852, says: "After the great fire which destroyed Chickering's building, it was mentioned in some of the papers, and currently reported, that the hydrants had failed to supply water in as great a quantity and at as high a level as was expected. No one familiar with the laws of the flow of water through pipes could be at all surprised at such a result. This matter was understood, not only theoretically, but practically, before the Boston Water Works were commenced, as will be seen by the following statement from the first report of the Commissioners appointed for inquiry into the state of the large towns and populous districts (in England), part 1, p. 316:"

“Result of Experiments made on the 31st of January, 1844, to ascertain the height that a jet of water will rise from the mains and services belonging to the Southwark Water Company, under a fixed pressure of 120 feet.

“The first trial was made in Union street, between High street and Gravel Lane, Borough, over an extent of 800 yards of 7-inch main, and through the fire brigade stand-pipes, hose and jets.

“This 7-inch main is connected to the 9-inch main in High street, Borough, which after a run of 500 yards is joined to 200 yards of 12-inch main, and then continued by 550 yards of 15-inch main to the great main leading from the Company's works at Battersea, making a total distance of 5,500 yards from the place where the experiment is made.

“One 2½-inch stand-pipe, with 40 feet hose and ½-inch jet, rose 50 feet.

“Two 2½-inch stand-pipe, with 40 feet hose and ½-inch jet, rose 45 feet.

“Three 2½-inch stand-pipe, with 40 feet hose and ½-inch jet, rose 40 feet.

“Four 2½-inch stand-pipe, with 40 feet hose and ½-inch jet, rose 35 feet.

“Five 2½-inch stand-pipe, with 40 feet hose and ½-inch jet, rose 30 feet.

“Six 2½-inch stand-pipe, with 40 feet hose and ½-inch jet, rose 27 feet.

“Then all the fire-plugs on the main were closed except the first and one 2½-inch stand-pipe, with 160 feet of hose and a ½-inch jet, rose 40 feet.

“The second trial was in Tooley street, off a 9 inch main, 1,400 yards in length, connected to 1,000 yards of 15-inch and 6,650 yards from the works :

“One 2½ inch stand-pipe, 40 feet hose, ½-inch jet, rose 60 feet.

“Two 2½-inch stand-pipe, 40 feet hose, ½-inch jet, difference not perceptible.

“Four 2½-inch stand-pipe, 40 feet hose, ½ inch jet, rose 45 feet.

“Six 2½-inch stand-pipe, 40 feet hose, ½-inch jet, rose 40 feet.

“Four-inch service in Tooley street, 200 yards long, supplied through 200 yards of 5-inch pipe from 9-inch main : one 2½ inch stand-pipe, fixed on the 4-inch service near the 5-inch pipe, with 40 feet of hose, ½-inch jet, rose 40 feet; two 2½-inch stand-pipes, ½-inch jet, rose 31 feet.

“One 2½ inch stand-pipe fixed at end of service, 200 yards from 5-inch pipe, 40 feet of hose, ½-inch jet, rose 34 feet.

“Two 2½-inch stand-pipes, 40 feet of hose, ½-inch jet, rose 23 feet.”

“Seventy years ago Dubuat’s experiments showed how greatly the lengthening of a small pipe would diminish the force, and consequently the amount of discharge through it. An ordinary fire hose may be considered the same as a small pipe, and as all but one or two hydrants are necessarily several hundred feet from any single building, the loss of velocity experienced by the water passing through the hose must be considerable. The Chief Engineer says that he can throw from the hydrants alone, without any engine, a stream over any private dwelling on Harrison avenue; but this cannot be done in higher parts of the city and on higher buildings, nor could it have ever reasonably been expected. The very tall buildings recently erected in comparatively low parts of the city can never have their highest stories protected from fire, by the simple pressure of Cochituate water through hose; it must be forced up by means of engines.”

It will be remembered that this distribution and the hydrants were planned and put in before any steam fire engines existed. In the report to the Water Board for 1860, the Engineer says: “In case of fire the steam fire engines require a larger supply of water than the small hydrants can deliver for their use. In order to remedy this, and keep up a sufficient supply for the steam fire engines, larger hydrants should be put in. Pipes should also be laid to connect the main pipes with all the old brick reservoirs under the streets, so that the reservoirs can be kept full, and whenever a fire occurs in any locality where the hydrants cannot give the steam fire engines a full supply, this difficulty would be remedied, or partially so, by these reservoirs.”

Some of these reservoirs were used during the recent fire.

Since the hydrant trial in this city a second 2½-inch main has been laid across the river, so that the same quantity of water can now be supplied to the distribution on the east side, with one-quarter the loss of head experienced at the trial, or double the quantity could be supplied with the same loss of head. A considerable increase of capacity will also be gained in the distribution by the completion of the 30-inch main in Public street, but the whole loss of head within the distribution was not sufficient to make the gain by these pipes of special importance. The completion, however, of the second line of leading mains, from the reservoir to the Stonington railroad bridge, would increase the capacity so as to deliver to the distribution—at the junction of Greenwich and Public streets—the same quantity of water with one-fourth the loss of head now experienced, or double the quantity could be delivered with the same loss. I suppose about twelve feet of head could be gained on Market square, by the completion of

the pipes named, in the delivery of the quantity of water drawn by the city during the hydrant test.

The completion of Hope Reservoir would provide storage of water sufficient to supply an excessive draft through a protracted time, without much more loss of head than occurred in the hydrant test.

It is intended to complete these mains and Hope Reservoir immediately, and when that is done and the permanent engines are completed, I think the supply will be sufficient to furnish all the city will use twenty years hence, and, in addition, twice as much for fire purposes as was drawn in the hydrant test, without a loss of head more than three feet greater than in that test.

When the high service is ready for use, it would be practicable in most parts of the city, if necessary, to shut the gates around a section of the low service and open communication with the high service, so as to give 100 feet more head than we should otherwise have on the low service, so long as the draft of water in that section is not greater than the high service engines can supply, or 10,000,000 gallons in twenty-four hours.

It will be easy at any time to open sufficient communication with the high service to add twenty feet to the head on the low service during the hydrant trial, if the demand for water is not greater than the high service can supply.

The statements in regard to future capacity are dependent on the preservation of the interior surface of the pipes by the coal tar coating. If that should fail, and tubercles should form, as they have in the pipes of the Boston Water Works, which were not coated, much loss of head would result. This coating has been in use in this country about fourteen years, and in England some eight years longer, and, so far as known, has proved an effective protection when properly applied.

Yours, Respectfully,

J. HERBERT SHEDD,

Chief Engineer.

1872-73.]

CITY DOCUMENT.

[No. 63.]

FOURTEENTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

APRIL 1, 1873.



PROVIDENCE:

HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.

1873.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main street.

CONSULTING ENGINEER.

S. B. CUSHING.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
Providence, April 1st, 1873. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned, Water Commissioners, respectfully present their Fourteenth Quarterly Report: —

The salary of Thomas C. Gushee, Commissioners' clerk, has been increased to one thousand dollars per annum, from January 1, 1873.

The salary of Frederic A. Arnold, Inspector of Water Fixtures, has been increased to one thousand dollars per annum, from January 1, 1873.

An offer of Thomas Phillips & Co., to lay service pipes during the year 1873, has been accepted.

An offer of James A. Potter & Co., to deliver at Pettaconset, 512 pieces, 12 x 12 dimension yellow pine timber, (for foundation of engine house and pump well), has been accepted.

A contract has been executed with the Builders' Iron Foundry, of this city, to furnish 1,401 tons of 2,240 lbs. cast iron water pipes, from six inches to twenty-four inches diameter, at three cents per pound; the pipes to be made by the Warren Foundry and Machine Co., of Phillipsburg, N. J. This price is lower than was named in any of the proposals which were opened on the nineteenth day of November last, all of which were rejected.

A contract has been executed with W. A. Burdick, Agent, of Westerly, R. I., for furnishing granite blocks for the slope-wall of Hope Reservoir.

A contract has been executed with George B. and Willard F. Inman, for Trenching and Back-filling and Laying Water Pipes during the present year.* Proposals for doing this work were opened February 20, 1873. Their offer to haul water pipes, and their offer to set Fire Hydrants during the same period, have been accepted.

An offer of W. A. Burdick, Agent, to furnish granite trimmings, &c., for the two gate-houses at Sockanosset Reservoir, for \$2,300 for each house, to be delivered at the reservoir, has been accepted.

The farm in Warwick, purchased of Richard U. Rhodes and wife, has been leased to William M. Holloway, for one year from March 1, 1873, for two hundred and twenty-five dollars per annum, payable quarterly in advance.

An offer having been made, (by a person whose name had not been made known to the public) to the Directors of the Athenæum and accepted by the stockholders thereof, to erect on its grounds an expensive drinking fountain, in a position convenient for the public to drink therefrom; the Water Commissioners passed a resolution to adopt said fountain as one of the number which they were authorized, by a resolution of the City Council, approved October 2, 1872, to provide; on the condition, however, that the arrangements for the use of the water be approved by the Chief Engineer.

The Commissioners have advertised for proposals, to be opened on the 8th instant, for the construction of Hope Reservoir. This reservoir is to be of irregular shape; about 950 feet long; about 840 feet wide; 24 1 2 feet deep, and of a capacity of a little over 80,000,000 gallons.

Hope Engine House is in readiness for the engine, but it is not probable that the engine will be ready for use before the first day of July next.

The work of excavating for the Natural Filter Basin, and for the permanent engine house and pump well at Pettaconset, has been carried on during the winter and still continues.

Stone, obtained from the land on Sockanosset hill, belonging to the city, has been prepared for use in building the gate-houses of Sockanosset Reservoir, and nearly a sufficient quantity for that purpose is now in readiness.

Water Pipes have been laid during the quarter as follows :

24 INCH.

At Hope Pumping Station, 100 feet.
Including 1 cut pipe, 1 branch, 2 curved pipes
and 2 gates.

12 INCH.

In Prospect street, 181 feet.
Including 2 cut pipes.

6 INCH.

In Brown street, 12 feet.
The total length of pipes of all sizes laid to date, is 70.25
miles.

The following Fire Hydrants have been reported to the Chief Engineer of the Fire Department, as ready for use :

- One at north-west corner of Brook and Williams Streets.
- One at north-east " " Prospect and Barnes Streets.
- One at south-east " " " " Halsey Streets.
- One at north-west " " Hidden " Brown Streets.

The whole number of Fire Hydrants at this date, is five hundred and nineteen.

Sixty-six Ball & Fitts' Water Meters, made by the Union Water Meter Co., have been put in at the expense of water takers since the date of the last report. There are six hundred and fifty-five now in use, viz. :

- 513 five-eighths inch.
- 81 three-quarters inch.
- 35 one inch.

28 one and one-half inch.

3 two inch.

655

The total number of applications for a supply of water is twenty-eight hundred and one.

The number of service stops opened during the last quarter is eighty-five.

The total number of service stops opened to date is two thousand and four.

Sixteen stops have been closed during the last quarter for non-payment of bills which have been re-opened on payment of bills and of a penalty in each case of two dollars. Five stops have been closed during the same period for the same cause, and have been re-opened on payment of bills, but, owing to peculiar circumstances attending each case, without penalty. Eight stops closed for same cause, remain unopened.

In no instance during the last quarter has water been shut off for infraction of rules, other than as above stated.

Water is now supplied for the following uses :

2 bakeries ; 27 banks ; 20 bar-rooms ; 1 bath house—Turkish ; 48 boarding houses ; 3 bottling establishments ; 15 building purposes ; 2 carriage depositories : 1 Children's Friend Society ; 1 Christian Union ; 9 churches ; 1 city barn ; 1 city building ; 1 city drinking fountain ; 1 city drinking trough ; 519 city fire hydrants ; 8 city fire steamer stations ; 1 city hose house ; 4 club rooms ; 9 coal yards ; 1 colored shelter ; 1 conservatory of music ; 2 convents ; 1 Dexter Asylum ; 911 dwellings of one family ; 491 dwellings of two families ; 30 dwellings of three families ; 38 dwellings of four families ; 9 dwellings of five families ; 7 dwellings of six families ; 2 dwellings of seven families ; 2 dwellings of eight families ; 2 dye houses ; 3 eleva-

tors; 1 express carriage house; 23 fountains—private; 1 furrier; 994 garden and street hydrants; 1 gas fixtures; 2 gasometers; 4 gold and silver platers; 4 gold and silver refiners; 2 grain elevators; 16 green houses; 8 halls; 1 hall of Latter Day Saints; 1 Home for Aged Women; 1 hospital; 10 hotels; 2 lodging houses; 2 lumber dealers; 8 machinists. Manufacturing establishments,—2 blank book; 1 bologna sausage; 1 box; 1 braiding works; 1 brass foundry; 1 brewery; 1 brush; 1 butt; 4 carriage; 4 cigar; 1 cigar box; 4 cloak and dress; 3 confectionery; 1 corset; 3 colorers of jewelry; 5 cotton; 1 crocus; 1 distillery; 3 die-sinkers; 1 dye wood; 1 dyeing, bleaching and calendering company; 1 eyelet; 2 file; 3 furniture; 1 gas; 1 gas burners; 1 geers; 1 harness; 1 horse shoe; 1 hulled corn; 2 ice cream and soda water; 1 iron company; 1 iron fence; 6 iron foundries; 66 jewelry; 3 lapidaries; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 2 paper box; 1 paper collar; 2 paper cop tube; 1 pattern; 3 patent medicine; 2 pump; 1 reed; 1 rubber tubing; 3 sash and blinds; 1 screw; 1 sheet iron; 2 shirt; 2 silver ware; 4 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engine; 1 stove; 1 tin; 4 tool; 1 top roll; 2 woolen goods; 2 yeast. Markets,—18 fish; 36 meat. mills,—1 drug and grain; 2 flour and grain; 2 marble works; 1 paint; 6 planing; 1 Music Hall; 2 Odd Fellows Halls; 2 Opera houses; 5 organs; 4 oyster houses; 365 offices; 5 photographers; 4 plaster and stucco workers; 3 plumbers; 3 police stations; 11 printing establishments; 6 provision curers and packers; 6 railroads; 1 reading room; 20 restaurants; 1 roofer. Saloons,—2 billiard; 2 bowling; 4 ice cream; 7 lager beer; 6 oyster. Schools,—1 boarding; 8 private; 12 public; 1 reform. Shops,—10 barber; 4 blacksmith; 4 carpenter; 3 cooper; 1 junk; 4 paint; 1 shoemaker; 17 tailors; 2 Tinmen. Stables,—3 hack; 27 livery; 78 private; 2 sale; 20 work. 9 steamboats; 11 steamships; 5 steam and gas pipe fitters. Stores,—25 apothecary; 1 auction; 1 book; 17 boot and shoe; 1 carriage trimmings; 9 cigar; 16 clothing; 4 confectionery; 2 drug; 16 dry goods; 17 fancy goods; 7 flour and grain; 9 fruit; 7 furniture; 6

gent's furnishing goods; 46 grocery, retail; 14 grocery, wholesale; 3 hardware; 2 hide and leather; 1 hoop skirt; 11 house furnishing goods; 1 house paper; 3 iron and steel; 7 jewelry; 9 liquor; 1 lime and brick; 2 manufacturers' supplies; 9 millinery; 2 newspaper; 2 paints and oil; 2 paper and paper stock; 6 produce, wholesale; 2 sewing machine; 2 stationery; 2 stove; 3 tea; 2 trunk; 1 wool; 2 woolen goods; 15 not classed; 2 undertakers; 1 United States Custom House building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner.

The average daily consumption of water, during the last quarter, including leakage, has been about one and one-quarter million gallons.

The amount of expenditures during the last quarter is - - - \$102,624 18

The total amount of expenditures is - 2,373,131 32

The total amount of appropriations is - 2,600,000 00

The unexpended balance is - - 226,868 68

The amount received during the last quarter, all of which has been paid to the City Treasurer is,

For Water Supplies, - \$51,683 62

" water meters, - - 2,590 55

" penalties, - - 32 00

" sundries, - - 4,995 89

59,302 06

The amount received for water in 1872 was 41,003 51

The amount received for water during the first quarter of 1873, as above stated, was - 51,683 62

The total amount received for water to date, is 92,687 13

The amount of all receipts to date, is 151,089 66

It is not probable that any additional appropriation will be needed during the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of ledger, March 31st, 1873, are hereunto appended and made parts of this report.

JOSEPH J. COOKE,	} <i>Water Commissioners.</i>
CHAS. E. CARPENTER	
WILLIAM CORLISS,	

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM JANUARY 1, 1873, TO MARCH 31, 1873, INCLUSIVE.

2585	Merchant's Line of Providence and New York Packets, freight of slate and merchandise for Hope Engine House, (charged to J. B. & J. M. Cornell), -	448 37
2586	Schooner Abigail Haines, freight of water pipes, (charged to Warren Foundry and Machine Co.), -	274 74
2587	Builders' Iron Foundry, gates and frames, &c., for Sockanosset Reservoir, -	1,317 31
2588	Builders' Iron Foundry, special castings, &c., -	1,108 63
2589	" " " " " " -	245 00
2590	J. W. & J. J. Newman, trenching, backfilling and laying water pipes, -	2,350 00
2591	J. W. & J. J. Newman, repairing streets, &c., -	14 25
2592	" " " setting hydrants, -	40 00
2593	" " " carting pipes, -	10 27
2594	Wm. S. Briggs, horse hire by engineers, -	27 00
2595	Tuttle & Hobbs, horse-keeping, &c., engineering department, -	101 68
2596	Granite Railway Co., on account of granite for Hope Engine House, -	6,000 00
2597	S. B. Cushing, engineering services, -	75 00
2598	Builders' Iron Foundry, special castings, &c., -	580 30
2599	Fales, Jenks & Sons, water gates, hydrant boxes, &c., -	3,629 74
2600	Providence & New York Steamship Co., freight on roof of Hope Engine House, (charged to J. B. & J. M. Cornell), -	81 68
2601	Charles H. Pierce, paid by him for labor at Hope Engine House, &c., -	107 30
2602	Isaac A. Sherman, transportation of stone, (charged to Granite Railway Co.), -	29 05
2603	Thomas Phillips & Co., laying service pipes, -	309 88
2604	Benjamin F. Gladding, on account of work on Natural Filter Basin, -	500 00
2605	Tucker, Swan & Co., coal, -	902 11
2606	Warren Foundry and Machine Co., water pipes, -	10,683 29
2607	Felix Johnson, on account of labor on stone for Gate Houses, for Sockanosset Reservoir, -	200 00
2608	Charles H. Parkhurst, counsel fees, &c., -	421 00
2609	J. B. & J. M. Cornell, on account of roof of Hope Engine House, -	5,000 00
2610	Felix Johnson, labor on stone for Gate Houses for Sockanosset Reservoir, -	85 70
2611	Charles H. Pierce, salary as assistant engineer, -	250 00
2612	Samuel M. Gray, " " " -	250 00
2613	Charles H. Swan, " " " -	166 67
Amount carried forward, -		\$34,808 97

	Amount brought forward,	-	-	\$34,808 97
2614	Otis F. Clapp, salary as assistant engineer,	-	-	208 33
2615	Howard A. Carson, " " "	-	-	166 67
2616	William T. Schneider, " " "	-	-	100 00
2617	Calvin F. Allen, one half salary as asst. "	-	-	41 67
2618	John E. Bowen, salary as assistant engineer,	-	-	100 00
2619	Lucius J. Sampson, " " "	-	-	83 33
2620	Charles F. Janes, one half salary as service pipe engineer,	-	-	50 00
2621	William F. Janes, salary as assistant service pipe engineer,	-	-	50 00
2622	Augustus F. Nagle, salary as mechanical engineer,	-	-	200 00
2623	J. Rayner Edmonds, one half salary as assistant mechanical engineer,	-	-	41 67
2624	George H. Slade, salary as student, engineering department,	-	-	41 67
2625	George F. Monro, " " " "	-	-	41 67
2626	Henry N. Francis, " " " "	-	-	33 33
2627	Leprilete Sweet, 2d, " " " "	-	-	41 67
2628	Edmund B. Weston, " " " "	-	-	33 33
2629	Mark Wilmarth, " " " "	-	-	33 33
2630	Louis R. Daniels, " " &c., " " "	-	-	60 00
2631	Walter A. Jackson, " " " "	-	-	25 00
2632	Edwin P. Dawley, " " " "	-	-	25 00
2633	Daniel D. Waterman, " " " "	-	-	41 67
2634	Walter F. Slade, salary as service pipe clerk, engineering department,	-	-	66 67
2635	Wm. H. Turner, " clerk, engineering department,	-	-	83 33
2636	Daniel C. Stone, salary as temporary office assistant, engineering department,	-	-	28 60
2637	Joseph M. Cooke, salary as temporary assistant, engineering department,	-	-	54 00
2638	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	166 67
2639	Samuel R. Eccleston, " inspector on pipe line, &c.,	-	-	108 00
2640	Elbert Purdy, " " " "	-	-	108 00
2641	George Bowers, " " of service pipes,	-	-	108 00
2642	Henry G. Dennis, " superintendent of pipe yards,	-	-	125 00
2643	Richard M. Wood, " clerk at pipe yard,	-	-	66 67
2644	Asa Sisson, " inspector of pipes,	-	-	135 00
2645	Jephtha Baker, " keeper of reservoir,	-	-	77 50
2646	George F. Battey, " pumping engineer,	-	-	100 00
2647	John Hamilton, " fireman,	-	-	100 00
2648	Daniel Lorigan, " " "	-	-	77 50
2649	George F. Barney, " coal heaver,	-	-	52 00
2650	Thomas A. McDonald, " engineer of drainage engine,	-	-	77 50
2651	William H. Thomas, " " "	-	-	77 50
2652	William H. Mahanna, " foreman, Natural Filter Basin,	-	-	100 00
2653	Lawrence Healey, axeman, &c.,	-	-	59 50
2654	Peter O'Brien, night watchman,	-	-	62 00
2655	Frederic A. Arnold, salary as inspector of water fixtures,	-	-	83 33
2656	Thomas C. Gushee, " commissioner's clerk,	-	-	83 33
2657	Philip S. Chase, " " "	-	-	100 00
2658	Clinton D. Sellew, " secretary to water comm's,	-	-	166 67

Amount carried forward, - - - \$38,494 08

	Amount brought forward,	-	-	-	\$38,494 08
2659	George F. Johnson, care of rooms,	-	-	-	57 24
2660	Charles H. Pierce, paid by him for labor at wharf,	-	-	-	199 00
2661	Charles H. Pierce, paid by him for sundries,	-	-	-	166 08
2662	William T. Schneider, " " " labor at pumping station,	-	-	-	261 85
2663	" " " " " sundries,	-	-	-	17 85
2664	M. D. Copeland, teaming,	-	-	-	10 50
2665	Wm. S. Briggs, horse hire by engineers,	-	-	-	12 09
2666	Earl Carpenter & Sons, ice,	-	-	-	24 63
2667	Knowles, Anthony & Danielson, advertising,	-	-	-	4 74
2668	Providence Press Co.,	-	-	-	11 70
2669	Baker & Howe, office furniture,	-	-	-	25 00
2670	Benjamin F. Gladding, labor at pumping station,	-	-	-	2,478 92
2671	Union Water Meter Co., water meters,	-	-	-	1,507 90
2672	Henry R. Worthington, repairs on Worthington engine, &c.,	-	-	-	242 38
2673	Dexter Gorton & Co., lumber, carpenter's work, &c.,	-	-	-	223 86
2674	Hammond, Angell & Co., printing,	-	-	-	131 63
2675	American Enamel Co., enamel pipe,	-	-	-	140 43
2676	Armstrong & Burlingame, wall paper for cottages at Pettaconset,	-	-	-	49 43
2677	Barker, Whitaker & Co., tools, &c.,	-	-	-	57 73
2678	A. C. Eddy & Studleys, packing rings,	-	-	-	36 55
2679	Daniel F. Burlingame, repairs to tools, &c., and labor at pumping station,	-	-	-	25 38
2680	Gideon G. Hicks, labor on iron for Hope Engine House,	-	-	-	23 44
2681	Benoit & Wood, mounted paper, &c.,	-	-	-	23 40
2682	B. F. Almy, cop waste,	-	-	-	23 25
2683	A. W. Page, tallow,	-	-	-	22 01
2684	Wood & Winsor, enameled pipe, &c.,	-	-	-	19 03
2685	J. A. Gowdey & Son, brass tapes,	-	-	-	6 00
2686	Sidney S. Rider & Bro., stationery,	-	-	-	64 61
2687	Stephen Knobb, carting granite,	-	-	-	20 83
2688	Providence & Worcester R. R. Co., transportation of stone,	-	-	-	34 50
2689	T. J. Hill, rent of wharf, &c.,	-	-	-	584 06
2690	Fales, Jenks & Sons, water gates, hydrants, &c.,	-	-	-	1,202 44
2691	Bullder's Iron Foundry, special castings and valve covers,	-	-	-	829 84
2692	T. & W. Breck, rent of offices,	-	-	-	750 00
2693	Benjamin F. Gladding, on account of labor on Natural Filter Basin,	-	-	-	500 00
2694	Felix Johnson, labor on stone, for Gate Houses for Sockanosset Reservoir,	-	-	-	506 00
2695	John W. & James J. Newman, laying water pipes,	-	-	-	16,618 18
2696	Hopkins & Pomroy, brick, cement, &c.,	-	-	-	139 04
2697	Rhode Island Concrete Co., concreting around hydrants, &c.,	-	-	-	289 50
2698	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
2699	Samuel M. Gray, " " " " "	-	-	-	250 00
2700	Charles H. Swan, " " " " "	-	-	-	166 67
2701	Otis F. Clapp, salary as assistant engineer,	-	-	-	208 33
2702	Howard A. Carson, " " " " "	-	-	-	166 67
2703	William T. Schneider, " " " " "	-	-	-	100 00
2704	Calvin F. Allen, " " " " "	-	-	-	83 33
2705	John E. Bowen, " " " " "	-	-	-	100 00
	Amount carried forward,	-	-	-	\$67,137 99

	Amount brought forward,	-	-	-	\$67,137 99
2706	Lucius J. Sampson, salary as assistant engineer,	-	-	-	83 33
2707	Charles F. Jones, one half salary as service pipe engineer,	-	-	-	50 00
2708	William F. Jones, salary as assistant service pipe engineer,	-	-	-	50 00
2709	Augustus F. Nagle, " " mechanical engineer,	-	-	-	200 00
2710	J. Rayner Edmands, one-half salary as assistant mechanical engineer,	-	-	-	41 67
2711	George H. Slade, salary as student, engineering department,	-	-	-	41 67
2712	George F. Monroe, " " " " " "	-	-	-	41 67
2713	Henry N. Francis, " " " " " "	-	-	-	33 33
2714	Lepilete Sweet, 2d, " " " " " "	-	-	-	41 67
2715	Edmund B. Weston, " " " " " "	-	-	-	33 33
2716	Mark Wilmarth, " " " " " "	-	-	-	33 33
2717	Louis R. Daniels, " " " &c., " " "	-	-	-	58 00
2718	Walter R. Jackson, " " " " " "	-	-	-	25 00
2719	Edwin P. Dawley, " " " " " "	-	-	-	25 00
2720	Daniel D. Waterman, " " " " " "	-	-	-	41 67
2721	Walter F. Slade, salary as service pipe clerk, engineering department,	-	-	-	66 67
2722	William H. Turner, salary as clerk, engineering department,	-	-	-	83 33
2723	Daniel C. Stone, salary as temporary office assistant, engineering department,	-	-	-	24 80
2724	Joseph M. Cooke, salary as temporary assistant, engineering department,	-	-	-	12 00
2725	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
2726	Samuel R. Eccleston, " " inspector on pipe line,	-	-	-	48 00
2727	Elbert Purdy, " " " " " "	-	-	-	48 00
2728	George Bowers, " " " " " "	-	-	-	16 00
2729	S. Horace Wheeler, " " inspector of service pipes,	-	-	-	88 00
2730	Henry G. Dennis, " " superintendent of pipe yards,	-	-	-	125 00
2731	Richard M. Wood, " " clerk at pipe yard,	-	-	-	66 67
2732	Asa Sisson, " " inspector of pipes,	-	-	-	100 00
2733	Jeptha Baker, " " keeper of reservoir,	-	-	-	72 50
2734	George F. Battey, " " pumping engineer,	-	-	-	100 00
2735	John Hamilton, " " fireman,	-	-	-	93 00
2736	George F. Barney, " " coal-heaver,	-	-	-	66 00
2737	Thos. A. McDonald, " " engineer of drainage engine,	-	-	-	76 50
2738	William H. Thomas, " " " " " "	-	-	-	72 50
2739	Peter O'Brien, " " night watchman, &c.,	-	-	-	68 50
2740	William H. Mahanna, " foreman, Natural Filter Basin,	-	-	-	100 00
2741	Lawrence Healey, salary as assistant foreman, Natural Filter Basin, &c.,	-	-	-	59 10
2742	Michael Tallant, axeman,	-	-	-	41 15
2743	Frederic A. Arnold, salary as inspector of water fixtures,	-	-	-	83 33
2744	Thomas C. Gushee, " " commissioner's clerk,	-	-	-	83 33
2745	Phillip S. Chase, " " " " " "	-	-	-	100 00
2746	Clinton D. Sellew, " " secretary to the water commissioners,	-	-	-	166 67
2747	George F. Johnson, care of rooms,	-	-	-	50 88
2748	Charles H. Pierce, paid by him for sundries,	-	-	-	52 90
	Amount carried forward,	-	-	-	\$70,089 16

	Amount brought forward,	-	-	-	\$70,099 16
2749	Charles H. Pierce, paid by him for labor at wharf,	-	-	-	177 00
2750	do. " " " " " Hope Engine House, &c.,	-	-	-	122 72
2751	William T. Schneider, paid by him for labor at pumping station,	-	-	-	212 60
2752	Sidney S. Rider & Bro., stationery,	-	-	-	18 82
2753	Alfred Stone, architectural services, Hope pumping station,	-	-	-	200 00
2754	William Barstow & Co., mat, for Engine House,	-	-	-	5 00
2755	A. C. Eddy & Studleys, rubber packing,	-	-	-	8 35
2756	Tucker, Swan & Co., coal,	-	-	-	8 50
2757	H. Kerr, paint, paper, &c., Hope Engine House,	-	-	-	10 52
2758	J. B. Angell, repairing tools, &c.,	-	-	-	16 52
2759	Daniel F. Burlingame, repairs to tools, labor at pumping station, &c.,	-	-	-	18 27
2760	Providence Steam and Gas Pipe Co., pipes, labor and materials, &c.,	-	-	-	23 81
2761	Benoit & Wood, cross section paper,	-	-	-	24 00
2762	John Salisbury, repairs to derrick, at wharf,	-	-	-	24 32
2763	Allen Fire Department Supply Co., fire hose, &c.,	-	-	-	51 89
2764	Hopkins & Pomroy, fire brick, coal, &c.,	-	-	-	117 45
2765	Albert Dalley & Co., lumber,	-	-	-	132 94
2766	Union Water Meter Co., water meters,	-	-	-	184 12
2767	Benjamin F. Gladding, labor at pumping station,	-	-	-	2,081 58
2768	Felix Johnson, labor on stone for Gate Houses for Sockanosset Reservoir,	-	-	-	400 94
2769	Seth Clarke, cutting stone, Hope Engine House,	-	-	-	80 00
2770	Schooner Mary Natt, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	-	-	406 50
2771	C. H. Scrutton, medicine and attendance for horse,	-	-	-	10 00
2772	Fales, Jenks & Sons, hydrant, water gate, &c.,	-	-	-	650 87
2773	Wm. S. Briggs, horse hire by engineers,	-	-	-	39 00
2774	Wm. A. Arnold, labor and materials for cottages at Pettaconset,	-	-	-	33 71
2775	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	-	-	162 49
2776	Thomas Phillips & Co., tin lined lead pipe,	-	-	-	506 11
2777	do. laying service pipes,	-	-	-	89 47
2778	do. " " " "	-	-	-	47 37
2779	do. " " " " labor and materials for Hope Engine House, &c.,	-	-	-	686 09
2780	H. B. Leach & Sons, laying drain pipe, Hope Reservoir,	-	-	-	156 88
2781	J. W. & J. J. Newman, carting pipes, &c.,	-	-	-	436 65
2782	Read & Richards, on account of construction of Hope Engine House,	-	-	-	1,500 00
2783	Benjamin F. Gladding, on account of labor on Natural Filter Basin,	-	-	-	400 00
2784	Builders' Iron Foundry, valve covers, special castings, &c.,	-	-	-	372 60
2785	Providence and New York Steamship Co., freight on roof of Hope Engine House, (charged to J. B. & J. M. Cornell),	-	-	-	48 95
2786	Felix Johnson, labor on stone for Gate Houses for Sockanosset Reservoir,	-	-	-	449 57
	Amount carried forward,	-	-	-	\$79,964 77

	Amount brought forward,	-	-	\$79,964 77
2787	Joseph Wheldon & Son, labor at Hope pumping station	-	-	181 00
2788	Fuller Iron Works, special castings,	-	-	2,233 48
2789	William H. Mahanna, salary as foreman, Natural Filter Basin,	-	-	58 06
2790	J. B. & J. M. Cornell, on account of roof for Hope Engine House,	-	-	7,000 00
2791	Schooner George Hotchkiss, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	-	458 12
2792	Felix Johnson, labor on stone for Gate Houses for Sockanosset Reservoir,	-	-	516 26
2793	Providence and New York Steamship Co., freight on roof of Hope Engine House, (charged to J. B. & J. M. Cornell),	-	-	9 31
2794	Granite Railway Co., on account of granite for Hope Engine House,	-	-	2,000 00
2795	J. Herbert Shedd, salary as chief engineer,	-	-	2,000 00
2796	Charles H. Pierce, " assistant engineer,	-	-	250 00
2797	Samuel M. Gray, " "	-	-	250 00
2798	Charles H. Swan, " "	-	-	166 67
2799	Otis F. Clapp, " "	-	-	208 33
2800	Howard A. Carson, " "	-	-	166 67
2801	William T. Schneider, " "	-	-	100 00
2802	Calvin F. Allen, " "	-	-	83 33
2803	John E. Bowen, " "	-	-	100 00
2804	Lucius J. Sampson, " "	-	-	83 33
2805	Charles F. Janes, one half salary as service pipe engineer,	-	-	50 00
2806	William F. Janes, salary as assistant " "	-	-	50 00
2807	Augustus F. Nagle, " mechanical " "	-	-	200 00
2808	J. Rayner Edmunds, three-quarters salary as assistant mechanical engineer,	-	-	62 50
2809	George H. Slade, salary as student, engineering department,	-	-	41 67
2810	George F. Monroe, " " " "	-	-	41 67
2811	Henry N. Francis, " " " "	-	-	33 33
2812	Leprilte Sweet, 2d, " " " "	-	-	41 67
2813	Edmund B. Weston, " " " "	-	-	38 44
2814	Mark Wilmarth, " " " "	-	-	33 33
2815	Louis R. Daniels, " " &c., " "	-	-	58 00
2816	Walter R. Jackson, " " " "	-	-	28 76
2817	Edwin P. Dawley, " " " "	-	-	25 00
2818	Daniel D. Waterman, " " " "	-	-	41 67
2819	Walter F. Slade, " service pipe clerk, " "	-	-	66 67
2820	Wm. H. Turner, " clerk, " "	-	-	83 33
2821	Daniel C. Stone, " temporary office asst., engineering dep't.	-	-	18 80
2822	Andrew B. Purdy, " superintendent of pipe work,	-	-	166 67
2823	Samuel R. Eccleston, one half salary as inspector on pipe line, &c.,	-	-	66 00
2824	Elbert Purdy, one half salary as inspector on pipe line,	-	-	52 00
2825	S. Horace Wheeler, salary as " service pipes,	-	-	104 00
2826	Henry G. Dennis, " superintendent of pipe yards,	-	-	125 00
2827	Richard M. Wood, " clerk at pipe yards,	-	-	64 52
	Amount carried forward,	-	-	\$97,322 36

REPORT OF THE WATER COMMISSIONERS.

17

	Amount brought forward,	-	-	-	\$97,322 36
2828	Jeptha Baker,	salary as keeper of reservoir,	-	-	75 00
2829	George F. Battey,	" pumping engineer,	-	-	100 00
2830	John Hamilton,	" fireman,	-	-	92 50
2831	Peter O'Brien,	" night fireman,	-	-	75 00
2832	George F. Barney,	" coal heaver,	-	-	66 80
2833	Thomas A. McDonald,	" engineer of drainage engine,	-	-	75 00
2834	William H. Thomas,	" night " " "	-	-	86 00
2835	Lawrence Healy,	" assistant foreman, Natural Fil-	-	-	
	ter Basin,	-	-	-	55 00
2836	Michael Tallant,	" foreman of dump, Natural Fil-	-	-	
	ter basin,	-	-	-	32 50
2837	Benjamin F. Tanner, axeman,	-	-	-	53 20
2838	Michael Tallant,	"	-	-	13 20
2839	Asa Sisson,	salary as inspector of pipes,	-	-	115 00
2840	Frederic A. Arnold,	" " water fixtures,	-	-	83 33
2841	Thomas C. Gushee,	" commissioners' clerk,	-	-	83 33
2842	Philip S. Chase,	" " "	-	-	100 00
2843	Clinton D. Sellaw,	" sec'y to water commissioners,	-	-	166 67
2844	Joseph J. Cooke,	" water commissioner,	-	-	500 00
2845	Charles E. Carpenter,	" " "	-	-	500 00
2846	William Corliss,	" " "	-	-	500 00
2847	George F. Johnson,	care of rooms,	-	-	55 24
2848	Charles H. Pierce,	paid by him for sundries,	-	-	91 85
2849	" " " " " "	labor at wharf,	-	-	299 50
2850	F. Rumpf,	professional services in relation to cornish engine,	-	-	100 00
2851	Sidney S. Rider & Bro.,	stationery, &c.,	-	-	13 58
2852	Henry Staples & Co.,	manilla paper,	-	-	16 80
2853	Providence Press Co.,	advertising,	-	-	12 31
2854	" " " "	printing,	-	-	138 58
2855	Hammond, Angell & Co.,	"	-	-	263 48
2856	J. Harry Welch,	spring fixture and hanging map,	-	-	5 50
2857	L. F. Pease,	labor, &c., taking down and putting up awnings,	-	-	4 50
2858	R. S. Burrough & Co.,	lard oil,	-	-	32 62
2859	J. A. Gowdey & Son,	steel tape,	-	-	17 00
2860	A. W. Page,	tallow,	-	-	22 01
2861	Gideon G. Hicks,	boiler iron and labor, Hope pumping station,	-	-	52 70
2862	A. C. Eddy & Studleys,	rubber hose,	-	-	20 25
2863	George W. Hall & Co.,	plaster, &c.,	-	-	6 75
2864	Allen Fire Department Supply Co.,	reducers and couplings,	-	-	16 00
2865	Cleveland Brothers,	tracing cloth, office furniture, &c.,	-	-	107 13
2866	G. & C. P. Hutchins,	oil, lanterns, chimneys, &c.,	-	-	42 02
2867	Providence Steam and Gas Pipe Co.,	pipes, labor, &c.,	-	-	37 66
2868	William H. Miller & Co.,	tools and repairs to same,	-	-	229 26
2869	Wm. S. Briggs,	horse-hire by engineers,	-	-	72 50
2870	Union Water Meter Co.,	water meters,	-	-	383 00
2871	Dexter Gorton & Co.,	lumber, carpenters' work, &c.,	-	-	346 22
2872	U. J. Wheeler,	advertising,	-	-	142 83

\$102,624 81

RECEIVED FROM JANUARY 1, 1873, TO MARCH 31, 1873, INCLUSIVE, AND PAID TO THE CITY TREASURER.

1873.		
January	6. Of David Cady & Co., for labor and materials,	\$90 92
	Of Henry G. Dennis, for scrap iron sold,	1 69
	7. Of Stafford & Co., for six months rent of Pawtuxet Mill, to January 1, 1873,	500 00
	9. Of William M. Holloway, for three months rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to March 1, 1873,	56 25
	11. Of Burrows Chace, for three months rent of farm in Warwick, purchased of Miss Patience W. Chace, to January 1, 1873,	43 75
	14. Of Alva Carpenter, for old iron,	306 85
	18. Of Benjamin F. Gladding, for four months rent of a portion of the "Aldridge" farm, to January 25, 1873,	40 00
	28. Of City of Providence, for sewer expenses,	1,140 69
February	8. Of Alva Carpenter, for old iron,	841 32
	10. Of City of Providence, for sewer expenses,	1,161 35
	20. Of Silver Spring Bleaching and Dyeing Co., for cracked water pipe,	62 77
	24. Of Richard M. Wood, for wharfage collected by him,	49 72
March	1. Of Daniel O'Connor, for rent of house purchased of him,	30 00
	5. Of Peleg P. Cranston, for three months rent of "Randall estate" so-called, in Pawtuxet, to January 1, 1873,	50 00
	6. Of Thomas Hannay, for three months rent of estate purchased of Miss Julia Bullock, to March 1, 1873,	75 00
	Of Thomas Hannay, for sods and loam,	100 00
	10. Of Alva Carpenter, for old iron,	112 29
	11. Of Alfred Mundell, for labor and materials,	9 18
	Of Taft, Weedon & Co., for labor and materials,	64 98
	12. Of Proprietors of Washington Buildings, for laying service pipe,	100 00
	13. Of Providence Steam & Gas Pipe Co., for cracked water pipe,	29 63
	29. Of city of Providence, for models of "Brook street district,"	129 60
	31. For water during the quarter,	51,683 62
	For meters " " " "	2,590 55
	For penalties " " " "	32 00
		<hr/> \$59,302 06

TRIAL BALANCE OF LEDGER, MARCH 31, 1873.

	Dr.	
Hope Reservoir for land,		\$194,101 33
" " " sundries,		816 30
" " " labor,		56 90
" " " drain,		156 88
" engine house,		10,898 00
Sockanosset Reservoir for sundries,		637 47
" " " land,		16,074 35
" " " construction,		177,870 73
" " " watch,		1,184 25
" " " gate houses,		2,588 14
" " " drain,		1,698 73
" " " inspection,		6,819 18
" " " extra work and materials,		189 70
" " " gate chambers,		19,299 37
Line of leading mains for labor and materials,		19,808 53
" " " extra trenching, etc.,		805 95
" " " land and damages,		1,665 00
Force main line for land and damages,		3,006 35
" " labor and materials,		5,099 28
" " extra trenching, etc.,		883 56
Office furniture, stoves, gas fixtures, etc.,		1,213 31
Rent of offices,		2,450 00
Books, stationery, etc.,		674 94
Fuel and lights,		230 36
Horse-hire by commissioners,		19 00
Janitor of rooms,		898 00
Traveling expenses of commissioners,		123 63
Clerk's salaries,		3,778 97
Commissioners' salaries,		21,308 79
Secretary's salary,		1,666 70
Sundries,		307 83
Printing,		1,616 39
Advertising,		1,464 04
Fences,		2,050 38
Stop valves,		47,917 70
Store-house and work-shop,		749 06
Tools,		4,738 11
Labor on pipes,		9,927 08
Rent of wharves and pipe yards,		2,934 61
Cast iron water pipes,		861,428 07
Linking curved pipes,		233 75
Special castings,		68,447 76
Lumber,		1,455 71
Fire hydrants,		69,291 10
Sockanosset hill cross-road,		3,849 00
Pettaconset and Sockanosset telegraph line,		1,713 44
Dwelling houses at Pettaconset,		4,159 30
Culverts and bridge on line of force mains,		6,775 33
" at Pettaconset,		3,557 92
Amount carried forward,		\$1,546,533 93

Amount brought forward,	\$1,546,333 92
Real estate in Warwick,	13,118 04
Water privileges, mill and other real estate in Pawtuxet,	50,231 96
Pochasset bridge,	5,531 02
Wharf salaries,	4,694 41
Temporary engine house at Pettaconset,	8,467 07
Engine house at Pettaconset,	3,056 45
Natural Filter Basin,	13,465 93
Roads, slopes, etc., at Pettaconset,	9,088 99
Removing loam,	462 95
Iron screw piles,	3,766 46
Hydrant bolts,	1,104 34
Pipe bolts,	1,135 47
Photographs,	147 00
Hydrant heads,	5,218 81
Taps and stops,	13,560 06
Valve covers,	5,866 53
Service pipe,	17,793 26
Hydrant boxes,	19,306 70
Setting fire hydrants,	7,540 98
Valve boxes,	19,964 13
Check valves,	1,412 48
Air cocks, boxes, covers and setting,	498 05
Night and Sunday watch at engine house,	1,124 00
Pettaconset pumping station for land,	1,419 20
" " " " sundries,	2,341 67
" " " " engineer,	2,153 08
" " " " coal and wood,	5,495 34
" " " " labor on fuel,	708 83
" " " " firemen,	1,478 40
Setting blow-offs,	265 66
Ascertaining and removing nuisances on Pawtuxet river,	479 46
J. B. & J. M. Cornell,	15,280 50
Freeborn, Johnson & Co.,	3,500 00
Taunton Brick Co.,	2,444 19
W. A. Burdick, Agent,	8,094 50
Granite Railway Co.,	18,033 23
Benjamin F. Gladding,	400 00
Town of Cranston,	5,000 00
A. & W. Sprague Manuf'g. Co.,	2,500 00
Read & Richards,	5,400 00
James W. Day,	14 85
City Treasurer,	58,404 53
" " for water payments,	92,637 13
Testing pipe iron,	443 50
Iron drain pipes and gate,	224 21
Carting pipes,	23,766 70
Counsel fees,	3,300 00
Inspection of pipes,	6,973 14
" " pipe laying,	16,126 53
" " water fixtures,	1,063 10
Testing bolts and composition castings,	34 25
Laying water pipes,	267,760 26
" service "	12,140 85
" suction " etc.,	85 00
Drainage pump and engine,	2,860 46
Amount carried forward,	\$2,319,039 07

REPORT OF THE WATER COMMISSIONERS.

21

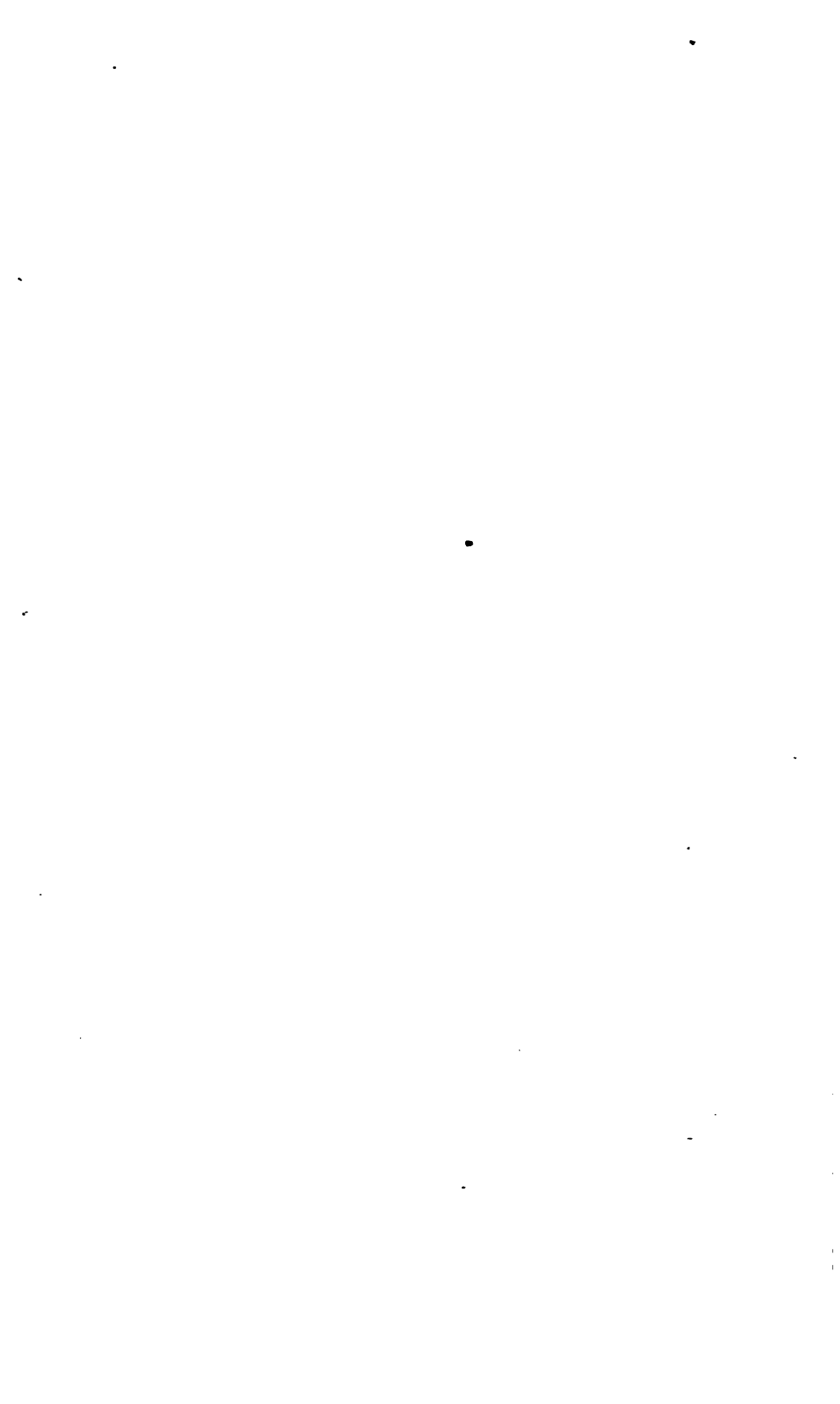
Amount brought forward,	.	.	2,519,089 07
Hydrants for street sprinklers,	.	.	1,438 88
Water meters,	.	.	19,794 10
Worthington pumping engine,	.	.	86,885 17
			<hr/>
			\$2,576,508 17

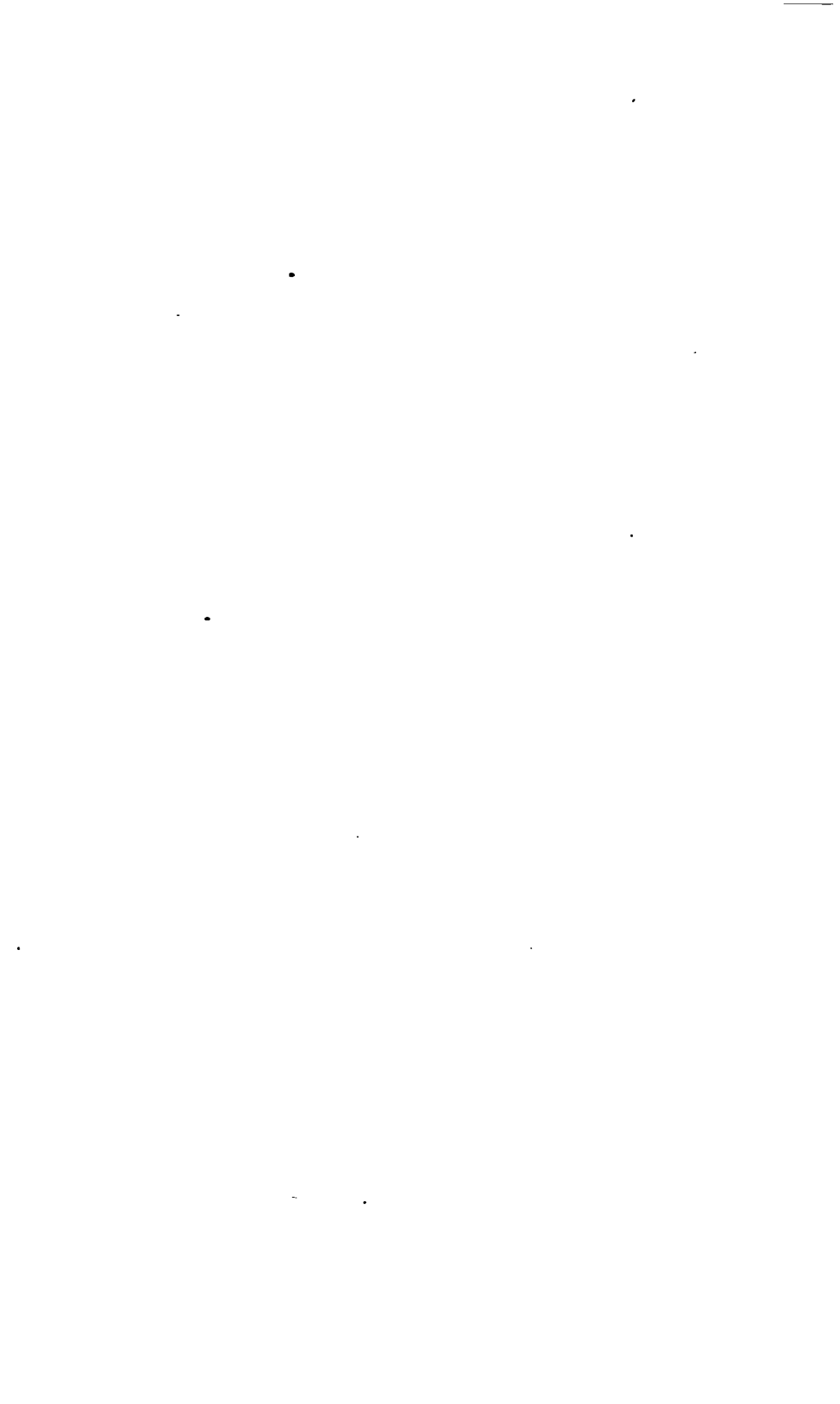
ENGINEERING DEPARTMENT—

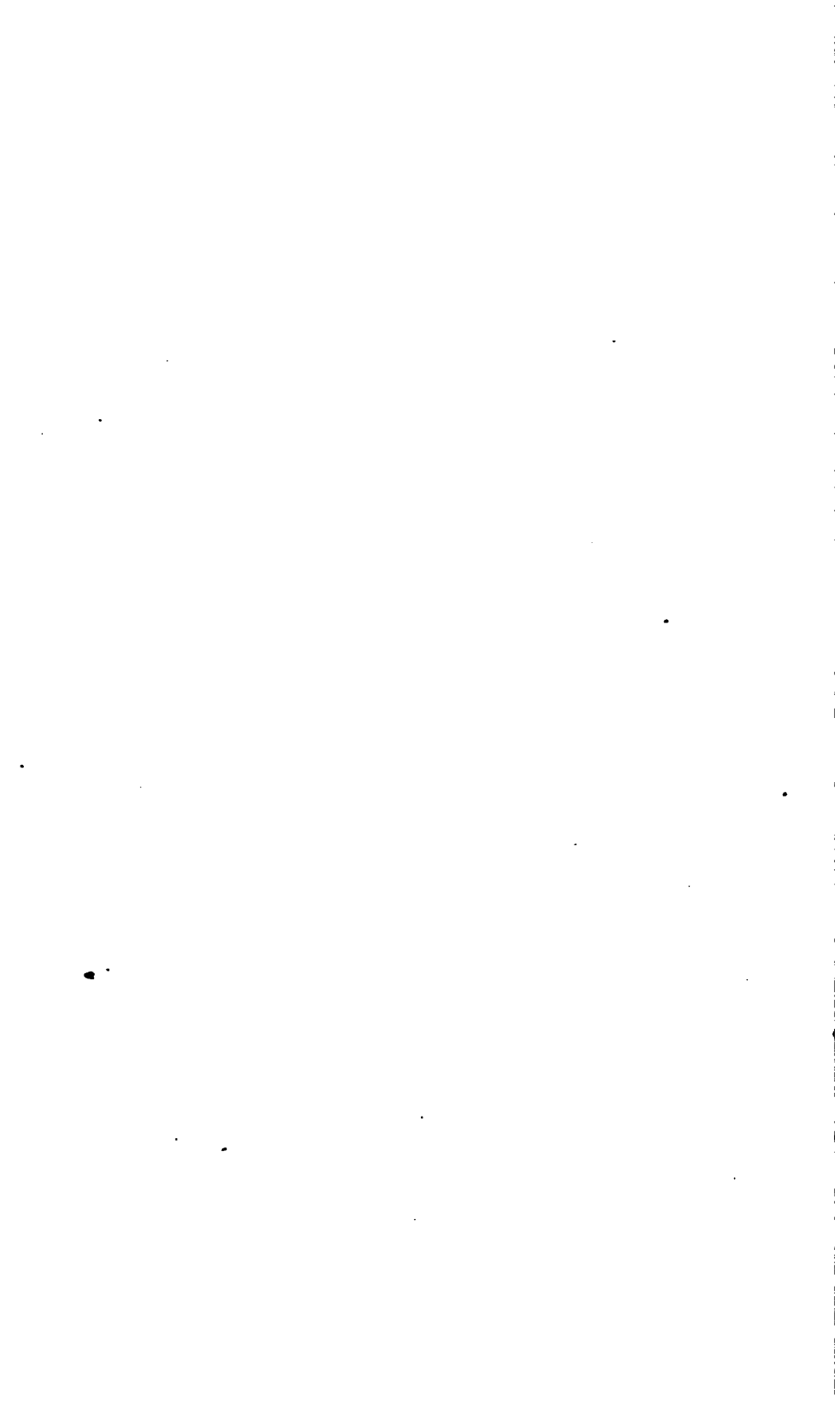
For Instruments,	.	.	2,197 26
Tools,	.	.	599 13
Furniture, stoves, gas fixtures, etc.,	.	.	2,308 68
Books, stationery, etc.,	.	.	2,051 71
Draughting,	.	.	2,504 77
Labor,	.	.	2,638 83
Horse and wagon account,	.	.	1,076 28
Horse keeping, shoeing, etc.,	.	.	1,094 12
Horse hire,	.	.	1,885 40
Rent of offices,	.	.	4,290 61
Fuel and lights,	.	.	527 69
Janitor of rooms,	.	.	775 62
Experimental filter,	.	.	91 08
Sundries,	.	.	1,689 21
Test wells,	.	.	1,579 40
Consultations,	.	.	430 00
Office building at Pettaconset,	.	.	553 21
" " " Sockanoeset reservoir,	.	.	563 23
Stakes and strips,	.	.	637 95
Printing,	.	.	220 27
Maps,	.	.	86 67
Service pipe experiments,	.	.	295 75
Temporary assistance,	.	.	6,463 28
Salaries,	.	.	86,905 94
			<hr/>
			122,855 07
			<hr/>
			\$2,499,947 24

Cm.

Hope reservoir for land, (rents received and buildings, etc., sold.)	.	.	4,058 42
Sockanoeset Reservoir for land, (rents received, and wood, etc., sold,	.	.	1,444 49
Real estate in Warwick, (rents received,).	.	.	531 25
Pettaconset pumping station for land, (rents received),	.	.	318 75
Water privileges, mill and other real estate in Pawtuxet, (rents received),	.	.	2,329 53
Warren Foundry and Machine Co.,	.	.	325 28
Rhode Island Concrete Co.,	.	.	50 00
Fales, Jenks & Sons,	.	.	600 00
John W. & James J. Newman,	.	.	5,000 00
Interest,	.	.	54 66
Boston hydrants,	.	.	14 26
Water meters,	.	.	19,835 95
Penalties,	.	.	46 00
Water,	.	.	92,687 13
Approved bills,	.	.	2,373,131 22
			<hr/>
			\$2,499,947 24







1873-74.

CITY DOCUMENT.

No. 7.

FIFTEENTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

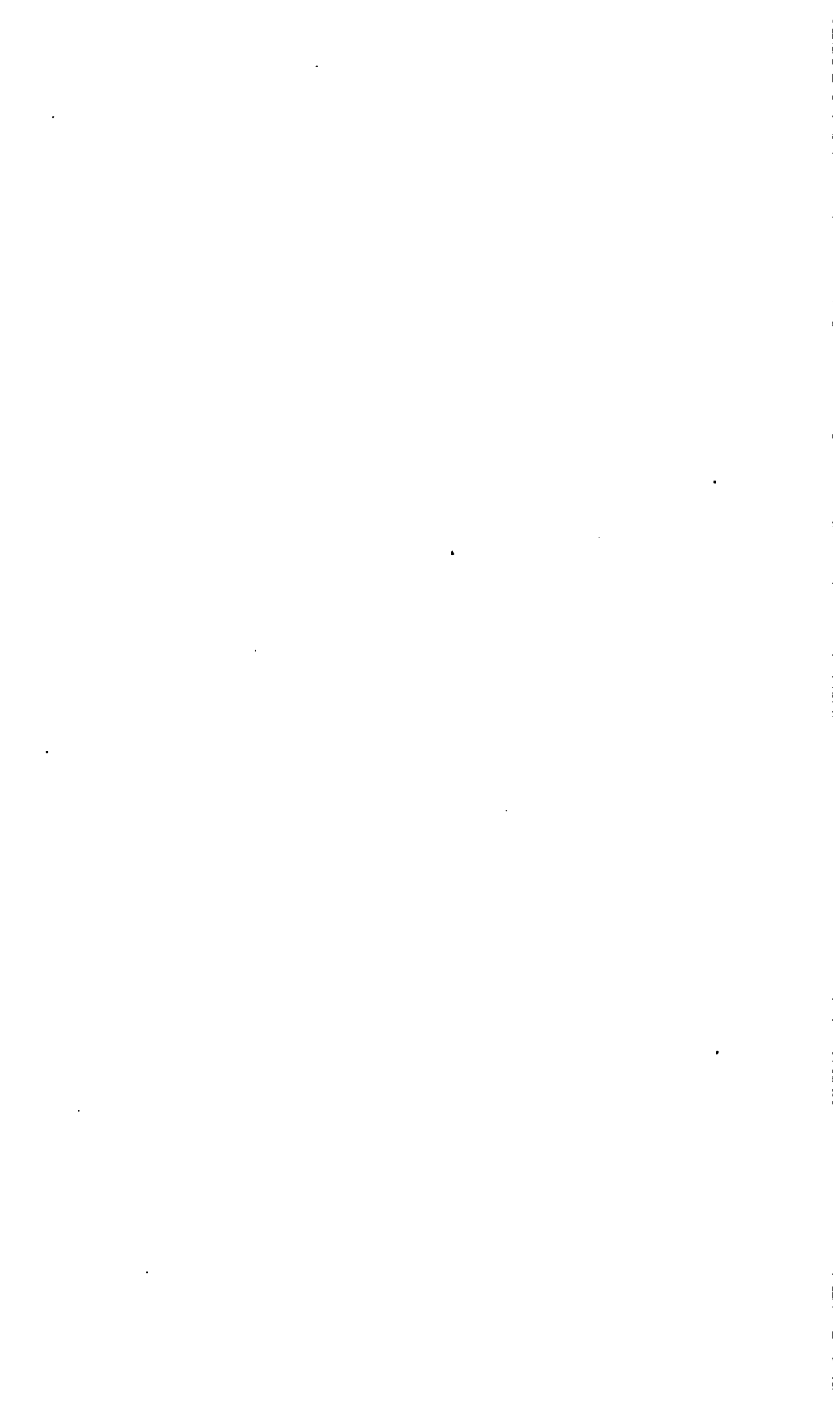
JULY 1, 1873.



PROVIDENCE:

HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.

1873.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

SECRETARY OF THE WATER COMMISSIONERS.

CLINTON D. SELLEW.
Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.
Office No. 35 North Main street.

CONSULTING ENGINEER.

S. B. CUSHING.

REPORT.

OFFICE OF THE WATER COMMISSIONERS, {
Providence, July 1st, 1873. }

TO THE HONORABLE THE CITY COUNCIL :

The undersigned, Water Commissioners, respectfully present their Fifteenth Quarterly Report :

The salary of Howard A. Carson, Assistant Engineer, has been increased to twenty-five hundred dollars per annum, dating from May 1, 1873.

George H. Slade, who for three years was a student in the engineering department, has been appointed an Assistant Engineer, with a salary of one thousand dollars per year, dating from June 1, 1873.

Daniel D. Waterman, who has also been a student in the engineering department, has been appointed an Assistant Engineer, with a salary of eight hundred dollars per year, dating from July 1, 1873.

The proposals which had been received, ten in number, for the construction of Hope Reservoir, were opened April 8th. The contract was awarded to George W. Lobdell, of Mattapoisett, Mass., and John W. and James J. Newman, of Brooklyn, N. Y., and was duly executed. The estimated quantities of work embraced in the contract and the contract prices, are as follows :

115,000 cubic yards of earth excavation, at	50	\$57,500 00
4,000 " " rock " "	2 00	8,000 00
21,000 " " puddle, " "	45	9,450 00
500 " " concrete, " "	10 00	5,000 00
2,200 " " broken stone		
for embankment slope, " "	3 00	6,600 00
13,700 square yards of stone slope-wall		
(laying only), " "	90	12,330 00
645 cubic yards of rubble masonry " "	10 00	6,450 00
27 " " cut-faced ashlar		
masonry, " "	5 00	135 00
62 cubic yards of quarry faced		
ashlar masonry, " "	5 00	310 00
120 cubic yards of brick masonry, " "	6 50	780 00
Setting pipes, special castings and		
gates,		550 00
850 lineal feet of 36 inch brick conduit, " "	3 75	3,187 50
125 " " " 30 " " " " "	3 50	437 50
90 " " " 16 " " drain		
culvert, " "	2 00	180 00
5,100 cubic yards of soil put on em-		
bankment, " "	60	3,060 00
16,500 square yards of sodding, " "	27	4,455 00
50,400 " " " bottom to prepare		
for road metal, " "	05	2,520 00
8,400 cubic yards of road metal on		
bottom of reservoir, " "	2 45	24,780 00
		<hr/>
		\$145,725 00

It should be understood that the above sum does not represent the expected cost of the reservoir, as a large amount of materials is to be furnished by the Commissioners. By the terms of the contract, the work is to be completed on or before November 1, 1874. The sum of twenty dollars per day is to be allowed to the contractors in case of earlier completion and the same sum per day is to be charged to them in

case of delay. The progress of the work to this time has not been rapid.

An offer of W. A. Burdick, Agent, to furnish granite for the gate chambers of Hope Reservoir, for \$2,565 for the northerly chamber and \$2,151 for the southerly chamber has been accepted.

An offer of Hopkins & Pomroy to furnish 500 barrels Newark Cement at \$2.13 per barrel and 500 barrels Portland Cement at \$6.25 per barrel, delivered at Pettaconset, has been accepted.

A contract has been executed with Calvin C. Campbell for furnishing granite rubble for foundation of engine-house and pump-well at Pettaconset; also for dimension granite for about two hundred feet in length of conduit at same place; delivered on the ground at \$8 per cubic yard of rubble, to be measured in place and \$1.50 per cubic foot for dimension stone.

An offer of J. B. & J. M. Cornell to furnish and put on, roofs of Sockanosset Reservoir gate-houses as per specifications for the sum of thirty-eight hundred and twenty-five dollars for the two houses, has been accepted.

An offer of Thomas Phillips & Co., to furnish 48,000 pounds of Tin Lined Lead Pipe at \$14.52 per 100 pounds, free of charge for freight, cartage, handling and storage, has been accepted.

An offer of the Builders' Iron Foundry to furnish 200 iron valve covers at four cents per pound, has been accepted.

The farm in Warwick, purchased of Miss Patience W. Chase, has been leased to John Godfrey, for one year from April 8, 1878 at one hundred and seventy-five dollars per year, payable quarterly in advance.

The grass and pasturage lands on the farm on Sockanosset hill, purchased of the late Stephen B. Gardiner, were leased April 25th, to Phineas A. Conley, for the remainder of the present calendar year, for one hundred dollars, one-half payable September 1st, 1873, and the other half, January 1st, 1874.

The house then standing on the land purchased of Miss Julia Bullock for Hope Reservoir use, was sold at auction April 19th, for seventeen hundred and twenty-five dollars, to be removed.

The following resolution has been adopted by the Commissioners :

" *Resolved*, That the Water Commissioners will set Fire Hydrants, when properly requested so to do, in such proper locations in adjoining towns on lines of pipe which may be laid for the supply of applicants for water, making therefor the same yearly charge, payable yearly in advance, as is made to the City of Providence for hydrants in said city, and will furnish a head with two openings at cost price, for use by a suitable person or persons to supply two lines of hose until the arrival of the City Fire Department: *Provided*, That no such Fire Hydrant shall be used for any other purpose than to extinguish a fire."

The Rules for Laying Drains to connect with the new sewers, adopted by the Honorable Board of Aldermen, May 12, 1873, authorize the Water Commissioners to issue licenses to drain-layers. The following persons have been duly licensed :

George R. Phillips,
Thomas Newman,
William F. Andrews,
Hiram C. Clark,
Amos Lee,
Joshua R. Brown,

Hiram S. Read,
Josiah Simmons,
John B. Earle,
Thomas B. Ross,
William F. French,
John W. Briggs.

The following persons have been licensed as plumbers :

Michael J. Higgins, Patrick J. Carty.

The number of Plumbers' Licenses issued to date is thirty-five.

The motion made in behalf of the city for a new trial of the case of Charles Stafford, *et al*, vs. the City of Providence has not been decided. The argument was closed May 31st, by Hon. Charles S. Bradley, of counsel for the city.

The gate-house over the inlet chamber of Sockanosset Reservoir is in readiness for the roof. Work on the gate-house of the outlet chamber is in progress.

The excavation for the Natural Filter Basin at Pettaconset, has been completed. The timber platform on which the walls of the engine-house and pump well are to be built is nearly laid.

The slope of the river embankment is being protected by stone taken from the reservoir grounds on Sockanosset hill.

The Commissioners believe that the Corliss Engine for the High Service will be in operation before the close of this quarter.

The average daily consumption of water, including all leakages, during the last quarter, has been about one million, six hundred thousand gallons. The daily consumption last week was about three million gallons.

High water in Sockanosset Reservoir is $180\frac{1}{2}$ feet above mean high tide in Providence river. At seven o'clock this morning the height of water in the reservoir was $180\frac{3}{10}$ feet.

The following statement shows the length of pipes laid during the last quarter; the sizes of the pipes; where laid, and the totals from the commencement of the work :

30 INCH.

In Broadway, High and Public streets, . 3,772 feet.

Including 6 cut pipes, 13 branches, 1 curved pipe, 1 reducer, 1 gate, 1 sleeve, 1 man-hole and 3 blow-offs.

Previously, 37,070 feet.

Total, 40,842 feet.

24 INCH.

In Broadway, High and Olney streets, and in and about Hope Engine House, 1,625 feet.

Including 22 cut pipes, 11 branches, 12 curved pipes, 9 gates, 1 reducer, 2 sleeves and 1 blow-off.

Previously, 17,185 feet.

Total, 18,810 feet.

20 INCH.

In Adelaide Avenue, 18 feet.

Including 1 branch and 1 sleeve.

Previously, 6,055 feet.

Total, 6,073 feet.

16 INCH.

In Governor, North Main and Wickenden streets, and Thurber's Avenue, 4,520 feet.

Including 25 cut pipes, 31 branches, 5 curved pipes, 6 gates and 1 sleeve.

Previously, 9,166 feet.

Total, 13,686 feet.

12 INCH.

In Atlantic street, (Olneyville), Broad, Crary

and Eddy streets, and in Hope Engine House,	6,376 feet.
Including 42 cut pipes, 54 branches, 6 curved pipes, 1 bevel hub, 11 gates, and 2 reducers.	
Previously,	10,973 feet.
Total,	17,349 feet.

10 INCH.

In yard of Atlantic DeLaine Co., (Olneyville.)	975 feet.
Including 10 cut pipes, 6 branches, 6 curved pipes, 3 bevel hubs, 1 reducer, and 2 gates.	
Previously,	6,678 feet.
Total,	7,653 feet.

8 INCH.

In Broad, Camp, Congress, Gano, High, Martin, Meeting, Square, Valley, Whelden, and West River streets; Elmwood and Prairie Avenues, in yard of Atlantic DeLaine Co., (Olneyville,) and for blow-offs on High and Public streets,	10,057 feet.
Including 55 cut pipes, 52 branches, 16 curved pipes, 1 bevel hub, 1 reducer, and 20 gates.	
Previously,	39,798 feet.
Total,	49,855 feet.

6 INCH.

In Arnold, Atlantic, Autumn, Bacon, Bourn, Briggs, Brownell, Bucklin, Burrill, C, Carroll, Carter, Chapel, Cherry, Common, Conduit, Daboll, Dodge, Eddy, Frank, Garden, Harrison, Hawthorne, Henderson, Hewes, High, John, Lemon, Lincoln, Manchester, Masha-

<p>paug, Mawney, Melrose, Moore, Mulberry, Norfolk, Ocean, Orms, Olney, Pitman, Power, Providence, Public, Sayles, Seekell, Seymour, Sherburne, Stevens, Swan, Taylor, Tower, Transit, Updike, Walnut, Weeden, West Friendship, West River, Whelden, and Wyatt streets; Doyle, Elmwood, and Potter's Avenues; Abbott Park Place; Stewart Court; for American Screw Co., from Eddy street and from Stevens street, for Atlantic DeLaine Company (Olneyville), for Providence Tool Company from West River street; for Peoples' Steamboat Company from Dyer street; for Franklin Foundry from Charles street; and for Factory of B. F. Almy from Bacon street, Including 204 cut pipes, 85 branches, 35 curved pipes, 21 bevel hubs, 3 reducers, and 92 gates.</p>		28,850 feet.
Previously,	.	239,040 feet.
Total,		267,890 feet.
Total of all sizes during the last quarter, or 10.64 miles.		56,193 feet.
Previously, including 36 inch of which none has been laid during the last quarter,		370,971 feet.
Total,	.	427,164 feet.
or 80.90 miles.		

The following Fire Hydrants were reported to the Chief Engineer of the Fire Department, as ready for use, December 31, 1872, and omitted in former reports of the Commissioners:

- One on the south-east side of West River street, in line with north-east side of Powder Lane, North Providence.
- One on the east side of West River street, about 90 feet south of angle in said street, North Providence.

Seventy-two Fire Hydrants have been set since the date of the last Quarterly Report, one in each of the following locations, those marked * being in north Providence ;

Arnold street,	south side, about 220 feet east of Benefit street.
*Atlantic "	west side, about 120 feet north of river.
* " "	west side, in line with north side of DeLaine street.
* " "	west side, in line with south side of Cnaffee street.
* " "	north-west corner of Meadow street.
* " "	west side, in line with south line of Malden street.
* " "	west side, about 320 feet north of north line of Malden street.
Autumn "	north-west corner of Eddy street.
Bacon "	south side, about 200 feet west of Camp street.
" "	south side, about 500 feet west of Camp street.
" "	south side, about 350 feet east of North Main street.
Broad "	south-east corner of Public street.
Briggs "	north-west corner of Eddy street.
Camp "	south-east corner of Lippitt street.
Chapel "	northerly corner of Burrill street.
Conduit "	west side, about 200 feet north of Summer street.
Congress "	south-west corner of Melrose street.
" "	south side, 320 feet east of Green- wich street.
Dodge "	east side, about 360 feet south of High street.
" "	east side, about 220 feet north of Cranston street.

Eddy street,	north-east corner of O'Connell street.
“ “	north-east corner of Swan street.
“ “	north-east corner of Mutual street.
“ “	north-east corner of Seymour street.
“ “	north-east corner of Thurber's Avenue.
Elmwood Avenue,	south-west corner of Adelaide Avenue.
“ “	west side, 480 feet south of Ade- laide Avenue.
“ “	west side, about 240 feet north of Sackett street.
Frank street,	north-west corner of Beacon street.
Governor street,	north-west corner of John street.
“ “	south-west corner of Arnold street.
“ “	west side, opposite north line of Trenton street.
Henderson “	south side, about half way between Eddy street and Allen's Avenue.
John “	north-east corner of East street.
Lemon “	north-west corner of Cottage street.
Lincoln “	south side, about 300 feet east of Park street.
Martin “	north-west corner of Ashburton street.
Meeting “	north side, about 140 feet west of Thayer street.
“ “	north side, about 480 feet east of Prospect street.
Melrose “	east side, in range with north line of Lexington street.
“ “	east side, about half way between Congress street and Potter's Avenue.
Moore “	south side, about 175 feet west of Greenwich street.

North Main street,	west side, opposite south line of Bacon street.
" " "	west side, opposite south line of Riley street.
" " "	west side, opposite north line of Olney street.
Ocean "	south-east corner of Gallup street.
Orms "	south side, about 10 feet east of Railroad Bridge.
Pitman "	corner of Wayland Avenue.
Potter's Avenue,	south-west corner of Melrose street.
" "	south west corner of Eddy street.
Power street,	south west corner of Ives street.
Prairie Avenue,	north-west corner of Colfax street.
" "	west side, half way between Pearl and Somerset street.
" "	north-west corner of Dudley street.
" "	north-west corner of Dora street.
" "	south-west corner of Clinton street.
" "	west side, in range with north line of Bogman street.
Public street,	south side, 375 feet east of Greenwich street.
Seekell "	north-west corner of Conduit street.
*Smith "	south side and east side of Alley at the City line.
Stevens "	south side, in line with west line of Hewes street.
Square "	north-west corner of Plane street.
Thurber's Avenue,	north-west corner of Plane street.
" "	north-east corner of Ocean street.
Transit street,	north-west corner of East street.
Walnut "	north-east side, half way between Westminster and Washington streets.
West Friendship street,	north side, about 380 feet east of Greenwich street.

* West River street,	south-east corner of Burgess street.
* " " "	east side, about 100 feet north of George street.
* " " "	south-east corner of Whelden street.
Whelden street,	north side, in line with west side of Allen street.
" "	north-east corner of McKenna street.

The total number of Fire Hydrants is now five hundred and ninety-three.

Four hydrants have also been set for use in filling sprinkling carts, etc. The number of such hydrants, is now twenty-two, all of which can be used with a single line of hose for extinguishing fires.

Two hundred and two Ball & Fitt's Water Meters, made by the Union Water Meter Co., have been put in at the expense of water takers since the date of the last report. There are eight hundred and fifty-seven now in use, viz :

674 five-eighths inch.
 108 three-quarters inch.
 46 one inch.
 30 one and one-half inch.
 4 two inch.

857

The total number of applications for a supply of water is forty-five hundred and six.

The number of service stops opened during the last quarter is five hundred and ninety five; seven of which are for fire purposes only. Fifteen stops opened for such purposes

during previous quarters, have not been included in former reports.

The total number of service stops opened to date is twenty-six hundred and fourteen.

Three stops have been closed during the last quarter for non-payment of bills and have been re-opened on payment of bills and a penalty in each case of two dollars. Three stops have been closed during the same period for infraction of rules, two of which were re-opened upon payment of two dollars penalty and one for reason of attendant circumstances, was re-opened without charge. Of the eight stops remaining closed at the commencement of the last quarter for non-payment, five have been re-opened upon payment of bill and of two dollars penalty, and one re-opened upon the payment of the bill only.

Two stops closed for non-payment remain unopened.

Water is now supplied for the following uses :

4 bakeries; 28 banks; 28 bar-rooms; 1 bath-house—Turkish; 62 boarding houses; 4 bottling establishments; 21 building purposes; 1 car-house; 2 carriage depositories; 1 Christian Union; 11 churches; 1 city barn; 1 city building; 2 city drinking fountains; 4 city drinking troughs; 593 city fire hydrants; 9 city fire steamer stations; 1 city hose house; 4 club rooms; 11 coal yards; 1 colored shelter; 1 conservatory of music; 2 convents; 1 court-house; 1 decorator; 1 Dexter Asylum; 1,195 dwellings of one family; 682 dwellings of two families; 61 dwellings of three families; 59 dwellings of four families; 10 dwelling of five families; 13 dwellings of six families; 3 dwellings of seven families; 2 dwellings of eight families; 2 dye houses; 3 elevators; 1 express carriage house; 38 fountains, private; 22 fire supplies, private; 1 furrier; 1,470 garden and street hydrants; 1 gas fixtures; 2 gasometers; 4 gold and silver platers; 4 gold and silver refiners; 2 grain elevators; 20 green houses; 9 halls;

1 hall of Latter-Day Saints; 1 Home for Aged Women; 1 hospital; 12 hotels; 2 lodging-houses; 2 lumber dealers; 13 machinists. Manufacturing establishments,—3 blank book; 1 bologna sausage; 1 box; 1 braiding works; 2 brass foundries; 1 brewery; 1 brush; 1 butt; 5 carriage; 1 cement pipe; 4 cigar; 1 cigar box; 4 cloak and dress; 3 confectionery; 1 corset; 3 colorers of jewelry; 5 cotton; 1 crocus; 1 distillery; 3 die-sinkers; 1 dye wood; 1 dyeing, bleaching, and calendering company; 1 eyelet; 2 file; 3 furniture; 1 gas; 1 gas burner; 1 geers; 1 hat; 1 harness; 1 horse shoe; 1 hulled corn; 2 ice cream and soda water; 1 iron company; 1 iron fence; 7 iron foundries; 1 Japan Switch; 66 jewelry; 3 lapidaries; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 2 paper box; 1 paper collar; 2 paper cop tube; 1 pattern; 3 patent medicine; 1 picture frame; 2 pumps; 1 reed; 1 rubber tubing; 3 sash and blinds; 1 screw; 1 sheet iron; 2 shirt; 2 silver-ware; 5 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engine; 1 stove; 1 tin; 4 tool; 1 top roll; 2 woolen goods; 2 yeast. Markets,—23 fish; 54 meat. Mills,—1 drug and grain; 2 flour and grain; 4 marble works; 1 paint; 7 planing; 1 Music Hall; 2 Odd Fellows' Halls; 2 opera houses; 2 orphan asylums; 5 organs; 4 oyster houses; 374 offices; 5 photographers; 4 plaster and stucco workers; 4 plumbers; 5 police stations; 11 printing establishments; 7 provision curers and packers; 7 railroads; 1 reading room; 25 restaurants; 1 roofer. Saloons,—2 billiard; 2 bowling; 4 ice cream; 8 lager beer; 6 oyster. Schools,—1 boarding; 8 private; 18 public; 1 reform. Shops,—10 barber; 4 blacksmith; 5 carpenter; 3 cooper; 1 junk; 4 paint; 3 shoemakers; 18 tailors; 2 tinmen. Stables,—6 hack; 32 livery; 106 private; 2 sale; 29 work; 12 steamboats; 11 steamships; 5 steam and gas pipe fitters. Stores,—25 apothecary; 1 auction; 3 book; 20 boot and shoe; 1 carpet; 1 carriage trimmings; 9 cigar; 16 clothing; 4 confectionery; 2 drug; 16 dry goods; 71 fancy goods; 7 flour and grain; 9 fruit; 7 furniture; 6 gent's furnishing goods; 60 grocery, retail; 14 grocery, wholesale; 4 hardware; 2 hide and leather; 2 hoop skirt; 11 house fur.

nishing goods; 1 house paper; 3 iron and steel; 8 jewelry; 9 liquor; 1 lime and brick; 2 manufacturer's supplies; 10 millinery; 6 newspaper; 3 paint and oil; 2 paper and paper stock; 6 produce, wholesale; 3 sewing machine; 2 stationery; 2 stove; 3 tea; 2 trunk; 1 umbrella; 1 wool; 2 woollen goods; 15 not classed. 2 undertakers; 1 United States Custom House building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood-turner; 1 wood yard.

The amount of expenditures during the last quarter is,	-	-	-	\$182,383 81
The total amount of expenditures is,	-	-	-	2,555,515 13
The total amount of appropriations is,	-	-	-	2,600,000 00
The unexpended balance is,	-	-	-	44,484 87
The amount received during the last quarter, all of which has been paid to the City Treasurer is,				
For Water Supplies,				\$12,805 27
" water meters,	-	-	-	5,286 15
" penalties,	-	-	-	20 00
" sundries,	-	-	-	3,914 13
				<hr/>
				22,025 55

The amount received for water in 1872 was,				41,008 15
The amount received for water during the first two quarters of 1873, was,	-	-	-	64,488 39
The total amount received for water to date is,				105,492 40
The amount of all receipts to date is,	-	-	-	173,113 21

An appropriation of \$200,000 as asked by the Commissioners under date of 20th June ultimo, will probably be sufficient for the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of ledger, June 30, 1873, are hereunto appended and made parts of this report.

The City Council having extended the term of office of the Water Commissioners to March 1, 1874, as authorized by

an Act of the General Assembly, the Commissioners this day enter upon the second prolongation of their term.

JOSEPH J. COOKE,	}	<i>Water Commissioners.</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS.		

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM APRIL 1, 1873, TO JUNE 30, 1873, INCLUSIVE.

2873	Schooner Jos. Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	377 79
2874	J. B. & J. M. Cornell, on account of roof for Hope Engine House,	-	5,009 00
2875	Providence Gas Co., rent of wharf,	-	175 00
2876	" " gas,	-	26 91
2877	Benjamin F. Gladding, labor at pumping station,	-	2,760 25
2878	Asa Sisson, salary as inspector of pipes,	-	26 50
2879	Thos. Phillips & Co., tin lined pipe,	-	141 65
2880	Tuttle & Hobbs, horse-keeping, &c., engineering department,	-	84 08
2881	Stephen Knobb, carting pipes,	-	43 77
2882	Seth Clarke, cutting stone for Hope Engine House,	-	35 25
2883	Wood & Winsor, steam gauge, tools, &c.,	-	23 82
2884	Daniel F. Burlingame, repairs to tools, &c.,	-	19 82
2885	Samuel M. Gray, paid by him for labor at Petteconset,	-	340 07
2886	Thomas Phillips & Co., laying service pipes,	-	191 01
2887	Felix Johnson, cutting stone for Gate Houses at Sockanosset Reservoir,	-	509 37
2888	Builders' Iron Foundry, special castings, &c.,	-	141 72
2889	Warren Foundry and Machine Co., on account of cast iron water pipes,	-	18,000 00
2890	Hopkins & Pomroy, coal, &c.,	-	2,099 16
2891	Seth Clarke, cutting stone for Hope Engine House,	-	15 00
2892	Schooner Warren Gates, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	164 53
2893	Frank Harmon, labor at Hope Reservoir and Engine House,	-	21 70
2894	William H. Miller & Co., repairing tools, &c.,	-	259 25
2895	Warren Foundry and Machine Co., cast iron water pipes,	-	1,650 08
2896	Fales, Jenks & Sons, hydrant heads &c.,	-	1,401 59
2897	James A. Potter & Co., on account of timber, &c.,	-	2,500 00
2898	William Elsbree, carting bricks for Hope Engine House,	-	67 63
Amount carried forward			\$36,075 95

	Amount brought forward,	-	-	\$36,075 95
2899	Schooner Saxony, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	-	299 02
2900	Felix Johnson, labor on Gate Houses at Sockanosset Reservoir,	-	-	372 95
2901	Stephen Knobb, carting stone, (charged to W. A. Burdick, agent,) -	-	-	50 00
2902	W. A. Burdick, Agent, on account of granite,	-	-	2,000 00
2903	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
2904	Samuel M. Gray, " " "	-	-	250 00
2905	Charles H. Swan, " " "	-	-	166 67
2906	Otis F. Clapp, " " "	-	-	208 33
2907	Howard A. Carson, " " "	-	-	166 67
2908	William T. Schneider, " " "	-	-	100 00
2909	Calvin F. Allen, " " "	-	-	125 00
2910	John E. Bowen, " " "	-	-	100 00
2911	Lucius J. Sampson, " " "	-	-	83 33
2912	Chas. F. Janes, one half salary as service pipe engineer,	-	-	50 00
2913	William F. Janes, salary as assistant " "	-	-	50 00
2914	Augustus F. Nagle, " mechanical " "	-	-	200 00
2915	J. Rayner Edmands, three quarters salary as asst. eng.,	-	-	62 50
2916	George H. Slade, salary as student, engineering department	-	-	41 67
2917	George F. Munro, " " " "	-	-	41 67
2918	Henry N. Francis, " " " "	-	-	41 11
2919	Leprilete Sweet, 2d " " " "	-	-	41 67
2920	Edmund B. Weston, " " " "	-	-	41 67
2921	Mark Wilmarth, " " " "	-	-	39 17
2922	Louis R. Daniels, " &c., " " "	-	-	50 00
2923	Walter R. Jackson, " " " "	-	-	33 33
2924	Edwin P. Dawley, " " " "	-	-	25 00
2925	Daniel D. Waterman, " " " "	-	-	41 67
2926	Charles M. Hunt, " " " on trial "	-	-	23 33
2927	Frank B. Ferris, " " " " "	-	-	8 33
2928	Thomas L. Botts, " " " " "	-	-	7 50
2929	William H. Olmstead " " " "	-	-	4 17
2930	Walter F. Slade, salary as service pipe clerk, eng. dep't,	-	-	66 67
2931	William H. Turner, clerk, engineering department,	-	-	83 33
2932	Daniel C. Stone, salary as temporary office assistant, engineering department,	-	-	19 40
2933	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	166 67
2934	Elbert Purdy, salary as inspector on pipe line,	-	-	104 00
2935	George Bowers, " " "	-	-	64 00
	Amount carried forward,	-	-	\$41,554 78

	Amount brought forward,	-	-	\$41,554 78
2936	Wm. H. Patterson, salary as inspector of pipe line,			72 00
2937	Foster S. Dennis, Jr. " "			104 00
2938	S. Horace Wheeler, " " service pipes,			104 00
2939	Frederic A. Arnold, " " water fixtures,			83 33
2940	Henry G. Dennis, " superintendent of pipe yard,			125 00
2941	Richard M. Wood, " clerk at pipe yard,			66 67
2942	Jeptha Baker, " keeper of Sockanosset Reservoir,			75 00
2943	George F. Battey, " pumping engineer,			100 00
2944	John Hamilton, " fireman,			77 50
2945	John Tallant, " night fireman,			60 00
2946	Peter O'Brien, " " "			10 00
2947	Michael Tallant, " " "			7 50
2948	George F. Barney, " " "			74 00
2949	Thomas A. McDonald, salary as engineer drainage engine,			75 65
2950	William H. Thomas, " " night, " "			47 50
2951	Samuel R. Eccleston, " inspector of pipes,			104 00
2952	Jesse E. Gray, " inspector at Hope Reservoir,			50 00
2953	Geo. H. De Forest, " time keeper, " "			24 00
2954	William F. Tanner, axeman.	-	-	52 80
2955	Thomas C. Gushee, salary as Commissioners' clerk,			83 33
2956	Philip S. Chase, " " "			100 00
2957	Clinton D. Sellow, " secretary to Water Commis- missioners,	-	-	166 67
2958	George F. Johnson, care of rooms,	-	-	55 24
2959	Charles H. Pierce, paid by him for sundries,			167 25
2960	" " " " labor at wharf,			373 00
2961	Samuel M. Gray, horse hire, engineering department,			72 00
2962	George F. Barney, board of engineer of pile driver, carpenter, &c., at Petteconset,	-	-	47 50
2963	Sidney S. Rider & Bro., stationery,	-	-	27 53
2964	Knowles, Anthony & Danielson, advertising,	-	-	18 56
2965	Benoit & Wood, India ink, pens, &c.,	-	-	5 45
2966	George W. Miller, repairing safe lock,	-	-	10 00
2967	Cleveland & Brothers, office furniture, &c.,	-	-	39 50
2968	Wm. S. Briggs horse-hire by engineers,	-	-	18 00
2969	Hope Iron Works, labor, repairs to pumping engine,			6 94
2970	Providence & Newport Lead Works, lead,	-	-	42 28
2971	Allen Fire Department Supply Co., hose, couplings, labor, &c.,	-	-	134 01
2972	Union Water Meter Co., Water Meters,	-	-	1713 00
2973	Barker, Whitaker & Co., tools, rubber hose, coup- lings, &c.,	-	-	275 54
	Amount carried forward	-	-	\$46,223 53

	Amount brought forward,	-	-	\$46,223 53
2974	Dexter Gorton & Co., lumber, carpenter's work, &c.,	3,191	95	
2975	Noah D. Payne, advertising,	-	-	36 37
2976	T. J. Hill, rent of wharf, &c.,	-	-	505 50
2977	M. D. Copeland, teaming,	-	-	192 50
2978	Samuel M. Gray, labor at pumping station,	-	-	4,454 57
2979	Lobdell & Newmans, on account of construction of Hope Reservoir,	-	-	850 00
2980	G. B. & W. F. Inman, trenching, backfilling and laying water pipes,	-	-	7,500 00
2981	G. B. & W. F. Inman, carting pipes,	-	-	1,049 69
2982	Fuller Iron Works, steam hoister,	-	-	1,025 00
2983	Felix Johnson, labor on Gate Houses, at Sockanosset Reservoir,	-	-	541 12
2984	James A. Potter & Co., derrick and fixtures,	-	-	671 07
2985	George W. Smith, cutting curbstones for hydrant boxes,	26	00	
2986	G. B. and W. F. Inman, setting hydrants, laying water pipes, &c.,	-	-	379 12
2987	Builders' Iron Foundry, special castings, &c.,	-	-	1,364 80
2988	S. A. Hammond, use of pile driver, &c.,	-	-	657 71
2989	T. & W. Breck, rent of offices, &c.,	-	-	752 50
2990	Thomas Phillips & Co., tin lined pipe,	-	-	505 08
2991	Warren Foundry and Machine Co., water pipes,	22,820	00	
2992	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	-	214 01
2993	Thomas Phillips & Co., laying service pipes,	-	-	861 10
2994	Felix Johnson, labor on Gate Houses at Sockanosset Reservoir,	-	-	675 70
2995	Charles H. Pierce, paid by him for labor at Hope Engine House, &c.,	-	-	329 84
2996	Read & Richards, on account of construction of Hope Engine House,	-	-	2,600 00
2997	Charles H. Pierce, salary as assistant engineer,	250	00	
2998	Samuel M. Gray, " " "	-	-	250 00
2999	Charles H. Swan, " " "	-	-	166 67
3000	Otis F. Clapp, " " "	-	-	208 33
3001	Howard A. Carson, " " "	-	-	208 33
3002	William T. Schneider, " " "	-	-	100 00
3003	C. Frank Allen, " " "	-	-	125 00
3004	John E. Bowen, " " "	-	-	100 00
3005	Lucius J. Sampson, " " "	-	-	83 33
3006	Charles F. Janes, " service pipe engineer,	100	00	
3007	William F. Janes, " asst. " "	-	-	50 00
3008	Augustus F. Nagle, " mechanical " "	-	-	200 00
	Amount carried forward,	-	-	\$99,268 82

REPORT OF THE WATER COMMISSIONERS. 25

	Amount brought forward,	-	-	\$99,268 82
3009	J. R. Edmands, one quarter salary as asst. mech. engineer,	20	83	
3010	Geo. H. Slade, salary as student engineering department,	41	67	
3011	Geo. F. Munro, " " " "	41	67	
3012	Henry N. Francia, " " " "	41	67	
3013	Lepriete Sweet, 2d,	41	67	
3014	Edmund B. Weston, " " " "	41	67	
3015	Mark Wilmarth, " " " "	41	67	
3016	Louis R. Daniels, " &c., " " "	50	00	
3017	Walter R. Jackson, " " " "	33	33	
3018	Edwin P. Dawley, " " " "	25	00	
3019	Daniel D. Waterman, " " " "	41	67	
3020	Charles M. Hunt, " on trial. " " "	25	00	
3021	Frank B. Ferris, " " " "	25	00	
3022	Thomas L. Botts, " " " "	25	00	
3023	William H. Olmstead, " " " "	25	00	
3024	Walter F. Slade, salary as service pipe clerk, " " "	66	67	
3025	William H. Turner " clerk, " " "	83	33	
3026	Daniel C. Stone, " temporary office assistant, " "	18	00	
3027	Andrew B. Purdy, " superintendent of pipe work,	166	67	
3028	Elbert Purdy, salary as inspector on pipe line,	108	00	
3029	William H. Patterson, " " " "	108	00	
3030	Foster S. Dennis, Jr. " " " "	108	00	
3031	S. Horace Wheeler, " " service pipes,	106	00	
3032	Frederic A. Arnold, " " of water fixtures,	83	33	
3033	Henry G. Dennis, " superintendent of pipe yard,	125	00	
3034	Richard M. Wood, " clerk at " " "	66	67	
3035	Jeptha Baker, " keeper Sockanosset Reservoir,	77	50	
3036	George F. Battay, " pumping engineer,	100	00	
3037	John Hamilton, " fireman, - -	90	00	
3038	Paschal L. Parsons, " " - -	87	00	
3039	John Tallant, " night fireman, - -	39	00	
3040	George F. Barney, " coal heaver, - -	33	40	
3041	Thomas A. McDonald, " engineer of draining engine,	73	33	
3042	William H. Thomas, " night " " "	86	75	
3043	Samuel B. Eccleston, " inspector of pipes,	135	00	
3044	Jesse E. Gray, " " at Hope Reservoir,	130	00	
3045	George H. Whitaker, " " " " "	5	00	
3046	George H. De Forest, " time keeper " " "	78	00	
3047	William F. Tanner, " axeman,	54	40	
3048	Thomas C. Gushee, " Commissioners' clerk,	83	33	
3049	Philip S. Chase, " " " "	100	00	

Amount carried forward, - - \$102,004 05

	Amount brought forward,	-	-	\$102,004 05
3050	Clinton D. Sellew, salary as Secretary of Water Commissioners,	-	-	166 67
3051	George F. Johnson, care of rooms,	-	-	57 24
3052	Charles H. Pierce, paid by him for sundries,	-	-	110 73
3053	" " " " labor at wharf,	-	-	693 00
3054	Sidney S. Rider & Brother, stationery,	-	-	15 54
3055	Valpey, Perkins & Co.,	-	-	34 76
3056	Akerman & Co., blank books, &c.,	-	-	35 85
3057	Potter, Denison & Co., office Furniture, engineering department,	-	-	35 00
3058	Wm. D. Andrews & Bro., bottom case for drainage pump,	-	-	51 40
3059	N. Webber, rubber boots,	-	-	63 00
3060	Providence & New York Steamship Co., freight of bottom case for drainage pump,	-	-	11 08
3061	Albert Dailey & Co. lumber,	-	-	37 82
3062	W. Congdon & Sons, steel tape, &c.,	-	-	20 62
3063	A. C. Eddy & Studleys, valves,	-	-	24 84
3064	William S. Briggs, horse hire by engineers,	-	-	15 00
3065	Horace B. Bowen, hydrant bolts and pipe bolts,	-	-	214 87
3066	William H. Miller & Co., tools, repairs to same, &c.,	-	-	173 65
3067	Union Water Meter Co., water meters,	-	-	1,553 90
3068	William H. Miller & Co., labor and materials for foundation of Engine House at Petteconset, &c.,	-	-	156 22
3069	Blackstone Iron Works, grate bars for Worthington boilers,	-	-	74 30
3070	John A. Moore, carting, &c.,	-	-	52 22
3071	M. D. Copeland, teaming,	-	-	489 87
3072	Edward Sawyer, investigation in regard to pumping engines, &c.,	-	-	135 43
3073	Hopkins & Pomroy, coal,	-	-	1,144 16
3074	" " lime, cement, coal, carting brick, &c.,	-	-	347 95
3075	Samuel M. Gray, horse hire, wood, &c.,	-	-	387 38
3076	James Sherburne, brown horse,	-	-	350 00
3077	Schooner John Brooks, freight of water pipes, (charged to Warren Foundry and Machine Co.),	-	-	224 82
3078	Calvin C. Campbell, on account of granite rubble,	-	-	2,000 00
3079	Wood & Winsor, couplings, nipples, elbows, tees, labor, &c.,	-	-	121 68
3080	Seth Clarke, cutting granite at Hope Engine House,	-	-	89 50
3081	Dexter Gorton & Co., lumber, carpenter's work, &c.,	-	-	2,307 06
3082	John B. Winship, inspection of lumber,	-	-	47 58
	Amount carried forward,			\$113,247 19

REPORT OF THE WATER COMMISSIONERS. 27

	Amount brought forward,	\$113,247 19
3083	William Grosvenor, balance in exchange of water meter,	11 20
3084	Felix Johnson, labor on Gate Houses at Sockanosset Reservoir,	753 71
3085	Samuel M. Gray, paid by him for labor at pumping station,	4,199 50
3086	Lobdell & Newmans, on account of construction of Hope Reservoir,	4,600 00
3087	Thomas Phillips & Co., tin lined pipe,	6,839 72
3088	Geo. W. Smith, cutting curb stones for hydrant boxes,	10 00
3089	Geo. F. Barney, board of machinists, &c., at Petteconset,	14 50
3090	Daniel F. Burlingame, repairs to tools, &c.,	21 05
3091	G. B. & W. F. Inman, carting pipes,	487 09
3092	" " laying water pipes,	174 50
3093	" " setting fire hydrants,	90 00
3094	" " laying water pipes, repairing streets, &c.,	219 61
3095	Schooner Fashion, freight of water pipes, (charged to Warren Foundry and Machine Co.),	217 13
3096	G. B. & W. F. Inman, trenching, and backfilling and laying water pipes,	9,100 00
3097	Thos. Phillips & Co., on account of laying service pipes,	1,000 00
3098	W. A. Burdick, agent, on account of granite for Sockanosset Reservoir Gate Houses,	1,500 00
3099	James A. Potter & Co., lumber, varnish, &c.,	5,709 29
3100	W. A. Burdick, Agent, granite for Hope Engine House,	628 87
3101	Albert Weaver, carting Engine, &c., to Fuller's Iron Works,	30 00
3102	Fuller Iron Works, special castings,	520 96
3103	Builders' Iron Foundry, special castings,	2,421 62
3104	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.),	247 65
3105	Calvin C. Campbell, on account of granite rubble,	1,500 00
3106	F. E. Turner, wood,	34 00
3107	Warren Foundry and Machine Co., water pipes,	8,961 40
3108	Felix Johnson, labor on Gate Houses at Sockanosset Reservoir,	814 45
3109	Kenneth McKay, building walls of coal vault, Hope Engine House,	196 14
3110	Schooner Emigrant, freight of water pipes, (charged to Warren Foundry and Machine Co.),	190 25
3111	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry and Machine Co.),	532 33

Amount carried forward, \$164,292 16

	Amount brought forward,	-	-	-	\$164,292 16
3112	Schooner D. Davidson, freight of bricks, (charged to S. F. & J. A. Gray),	-	-	-	187 50
3113	S. F. & J. A. Gray, on account of bricks,	-	-	-	2,000 00
3114	J. Herbert Shedd, salary as Chief Engineer,	-	-	-	2,000 00
3115	Charles H. Pierce, " assistant "	-	-	-	250 00
3116	Samuel M. Gray, " " " &c.,	-	-	-	505 00
3117	Charles H. Swan, " " " "	-	-	-	166 67
3118	Otis F. Clapp, " " " "	-	-	-	208 33
3119	Howard A. Carson, " " " "	-	-	-	208 33
3120	William T. Schneider, " " " "	-	-	-	100 00
3121	C. Frank Allen, " " " "	-	-	-	125 00
3122	John E. Bowen, " " " "	-	-	-	100 00
3123	Lucius J. Sampson, " " " "	-	-	-	83 33
3124	George H. Slade, " " " "	-	-	-	83 33
3125	Charles F. Janes, " service pipe engineer,	-	-	-	100 00
3126	William F. Janes, " asst. " " " "	-	-	-	50 00
3127	Augustus F. Nagle, " mechanical " "	-	-	-	200 00
3128	J. Bayner Edmonds, three quarters salary as assistant mechanical engineer,	-	-	-	62 50
3129	Geo. F. Munro, salary as student engineering department,	-	-	-	41 67
3130	Henry N. Francis, " " " "	-	-	-	41 67
3131	Leprelete Sweet, 2d, " " " "	-	-	-	41 67
3132	Edmund B. Weston, " " " "	-	-	-	41 67
3133	Mark Wilmarth, " " " "	-	-	-	41 67
3134	Louis R. Daniels, " &c., " " "	-	-	-	50 00
3135	Walter R. Jackson, " " " "	-	-	-	33 33
3136	Edwin P. Dawley, " " " "	-	-	-	26 67
3137	Daniel D. Waterman, " " " "	-	-	-	41 67
3138	Charles M. Hunt, " on trial, " " "	-	-	-	25 00
3139	Frank B. Ferris, " " " "	-	-	-	25 00
3140	Thomas L. Botts, " " " "	-	-	-	25 00
3141	William H. Olmstead, " " " "	-	-	-	25 00
3142	Walter F. Slade, salary as service pipe clerk, " " "	-	-	-	66 67
3143	Joshua C. Drowne, Jr., clerk engineering department,	-	-	-	25 00
3144	William H. Turner, " " " "	-	-	-	83 33
3145	Daniel C. Stone, temporary office asst. " " "	-	-	-	32 00
3146	Louis W. Peck, " " " "	-	-	-	34 00
3147	Andrew B. Purdy, superintendent of pipe work,	-	-	-	166 67
3148	Elbert Purdy, salary as inspector on pipe line,	-	-	-	100 00
3149	William H. Patterson, " " " "	-	-	-	100 00
3150	Foster S. Dennis, Jr., " " " "	-	-	-	100 00
	Amount brought forward,	-	-	-	\$171,869 84

REPORT OF THE WATER COMMISSIONERS. 29

	Amonnt brought forward,	-	-	-	\$171,889 84
3151	Samuel R. Eccleston, salary as inspector at foundry,				125 00
3152	S. Horace Wheeler,	"	of service pipes,		100 00
3153	Henry M. Wilcox, asst.	"	"	"	39 00
3154	Frederic A. Arnold,	"	of water fixtures,		83 33
3155	Henry G. Dennis, salary as superintendent of pipe yard,				125 00
3156	Richard M. Wood,	"	clerk at pipe yard,	-	66 67
3157	Jeptha Baker,	"	keeper Sockanossset Reservoir,		77 50
3158	George F. Battey,	"	pumping engineer,	-	100 00
3159	John Hamilton,	"	fireman, &c.,	-	119 50
3160	Paschal L. Parsons,	"	"	-	93 00
3161	George F. Barney,	"	coal heaver, &c.,	-	73 60
3162	Thos. A. McDonald,	"	engineer of drainage engine,		77 50
3163	Wm. H. Thomas,	"	night " " "		94 50
3164	Jesse E. Gray,	"	inspector at Hope Reservoir,		135 00
3165	Geo. H. Whitaker,	"	" " "		135 00
3166	Geo. H. DeForrest,	"	time keeper " "		81 00
3167	William F. Tanner,	"	axeman,	-	45 80
3168	Thomas C. Gushee,	"	commissioner's clerk,	-	83 33
3169	Philip S. Chase,	"	" " "	-	100 00
3170	Clinton D. Sellew,	"	Secretary of Water Commis-		
	sioners,	-	-	-	166 67
3171	Joseph J. Cooke,	"	Water Commissioner,	-	500 00
3172	Chas. E. Carpenter,	"	" " "	-	500 00
3173	William Corliss,	"	" " "	-	500 00
3174	George F. Johnson, care of rooms,	-	-	-	53 24
3175	Michael Tallant, labor at Hope Engine House,	-	-	-	58 31
3176	Charles H. Pierce, paid by him for sundries,	-	-	-	114 26
3177	"	"	for labor at wharf,		794 83
3178	"	"	" at Hope Engine House,		301 53
3179	Samuel M. Gray, horse hire, labor, &c.,	-	-	-	132 47
3180	Clinton D. Sellew, paid sundry office expenses for six months,	-	-	-	30 86
3181	Valpey, Angell & Co., stationery,	-	-	-	43 70
3182	Bugbee & Hall, blank books,	-	-	-	11 90
3183	Sidney S. Rider & Bro., stationery,	-	-	-	11 20
3184	Providence Gas Co., rent of wharf,	-	-	-	116 67
3185	"	"	gas,	-	8 05
3186	Cleveland & Brothers, office furniture, &c.,	-	-	-	54 08
3187	Wm. S. Briggs, horse hire by engineers,	-	-	-	48 00
3188	James Tiffany, jack screw,	-	-	-	10 00
3189	Moulton & Ingraham, stakes,	-	-	-	10 58
3190	Tucker, Swan & Co., coal,	-	-	-	9 00
3191	M. D. Copeland, teaming,	-	-	-	243 00
	Amount carried forward,	-	-	-	\$177,362 92

	Amount brought forward,	-	-	-	\$177,362 92
3192	Boston Machine Co., post hydrants,	-	-	-	90 00
3198	Walter Coleman & Sons, blocks, rope, &c.,	-	-	-	25 80
3194	G. T. Swarts, furnishing for funeral of George Doyle,	-	-	-	57 50
3195	B. S. Burrough & Co., lard oil,	-	-	-	32 25
3196	Providence Concrete Co., repairing wood pavement,	-	-	-	25 00
3197	Read & Richards, plastering, &c. in Hope Engine House,	675	36	-	
3198	J. Whelden & Son, stones for Hope Engine House,	198	17	-	
3199	Henry R. Worthington, repairs to pumping engine, &c.,	247	89	-	
3200	Dexter Gorton & Co., lumber, gate boxes, labor, &c.,	346	57	-	
3201	Hopkins & Pomroy, cement, lime, carting bricks, &c.,	1,118	90	-	
3202	Union Water Meter Co., meters,	-	-	2,086	35
3203	Allen Fire Department Supply Co., hydrants for street sprinklers, &c.,	-	-	-	86 10
3204	H. M. Pool, repairing level,	-	-	-	31 00
					<u>\$182,383 81</u>

RECEIVED FROM APRIL 1, 1873 TO JUNE 30, 1873, INCLUSIVE,
AND PAID TO THE CITY TREASURER.

1873.

April 2,	Of Peleg P. Cranston, for three months rent of "Ran-				
	dall Estate," so called, in Pawtuxet, to April 1, 1873,				\$50 00
4,	Of John Godfrey, for three months rent of farm in War-				
	wick, purchased of Miss Patience W. Chace, to July 8,				
	1873.	-	-	-	43 75
8	Of Benjamin F. Gladding, for rent of a portion of the				
	"Aldridge farm," to April 1, 1873,	-	-	-	22 00
10	Of Cranston Furnace Co., for old iron,	-	-	-	211 50
12	Of Barrows Chace, for three months rent of farm in War-				
	wick, purchased of Miss Patience W. Chace, to April 1,				
	1873.	-	-	-	43 75
12,	Of Providence and New York Steamship Co., for labor				
	and materials,	-	-	-	3 00
14,	Of William M. Holloway, for three months rent of farm				
	in Warwick, purchased of Richard U. Rhodes and wife,				
	to June 1, 1873,	-	-	-	56 25
May 1,	Of Richmond Manufacturing Co., for labor and materials,				97 44
5,	Of Amos N. Beckwith, } for house, on estate purchased				
	and Bernard Doyle, } of Miss Julia Bullock,				1725 00
6,	Of James W. Day, for labor and materials,	-	-	-	14 35
8,	Of Henry G. Dennis, for wharfage &c., collected by him,	-	-	-	50 00
10,	Of Alva Carpenter, for old iron,	-	-	-	30 10
					<u>\$2,347 14</u>
	Amount carried forward,	-	-	-	

Amount brought forward,		\$2,347 14
12,	Of Samuel M. Gray, for sundries,	88 45
14,	Of A. F. Nagle, for testing sewing machine motor,	10 00
17,	Of Henry W. Gardner, for labor and materials,	28 55
27,	Of Providence Gas Co., for services of draughtsman,	70 00
27,	Of William H. Waterman, for labor and materials,	61 77
27,	Of George M. Carr, for one 1 inch stop,	2 50
June 3,	Of Charles LaRose, for black mare,	135 00
7,	Of Henry G. Dennis, for wharfage collected by him,	50 00
9,	Of Thomas Hannay, for two months rent, of estate purchased of Miss Julia Bullock, to May 1, 1873.	50 00
9,	Of Thomas Hannay, for sods and loam,	49 86
10,	Of William M. Holloway, for three months rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to September 1, 1873,	56 25
10,	Of J. W. & J. J. Newman, for labor,	4 50
12,	Of Samuel M. Gray, for sundries,	71 64
16,	Of Alva Carpenter, for old iron,	402 50
19,	Of Fuller Iron Works, for old iron,	485 97
30,	For water during the present quarter,	12,805 27
30,	For Meters during the present quarter,	5,286 15
30,	For Penalties during the present quarter,	20 00
		<hr/>
		\$22,025 55

TRIAL BALANCE OF LEDGER JUNE 30, 1873.

DR.		
Hope Reservoir for land,	-	\$124,101 32
" " " sundries,	-	239 23
" " " labor,	-	111 95
" " " drain,	-	178 53
" " " inspection,	-	455 00
Hope engine house,	-	21,996 02
Sockanosset Reservoir for construction,	-	177,870 72
" " " sundries,	-	769 20
" " " land,	-	16,074 35
" " " watch,	-	1,364 25
" " " gate houses,	-	6,952 79
" " " drain,	-	1,745 70
" " " inspection,	-	6,819 18
" " " extra work and materials,	-	189 70
" " " gate chambers,	-	19,299 27
Line of leading mains for labor and materials,	-	19,908 52
" " " extra trenching, etc.,	-	305 95
" " " land and damages,	-	1,665 00
Force main line for land and damages,	-	3,006 35
" " labor and materials,	-	5,069 28
" " extra trenching, &c.,	-	332 56
Office furniture, stoves, gas fixtures, &c.,	-	1,212 31
Rent of offices,	-	2,700 00
Books, stationery, &c.,	-	726 54
Fuel and lights,	-	232 26
Horse hire by commissioners,	-	19 00
Janitor of rooms,	-	452 00
Travelling expenses of commissioners,	-	122 62
Clerk's salaries,	-	4,323 96
Commissioner's salaries,	-	22,708 79
Secretary's salary,	-	2,166 71
Sundries,	-	340 63
Printing,	-	1,616 39
Advertising,	-	1,520 94
Fences,	-	2,050 38
Stop valves,	-	47,454 70
Store house and work shop,	-	1,504 69
Tools,	-	6,674 35
Labor on pipes,	-	11,787 91
Rent of wharves and pipe yards,	-	3,656 78
Cast iron water pipes,	-	945,385 74
Linking curved pipes,	-	232 75
Special castings,	-	72,202 75

Amount carried forward,

\$1,537,477 12

REPORT OF THE WATER COMMISSIONERS. 33

Amount brought forward,	-	-	\$1,537,477 12
Lumber,	-	-	1,455 71
Fire Hydrants,	-	-	68,755 66
Sockanosset hill cross road,	-	-	3,849 00
Pettaconset and Sockanosset telegraph line,	-	-	1,721 04
Dwelling houses at Pettaconset,	-	-	4,246 16
Culverts and bridge on line of force mains,	-	-	6,775 33
Culverts at Pettaconset,	-	-	3,557 92
Real estate in Warwick,	-	-	13,118 04
Water privileges, mill and other real estate in Paw-			
tuxet,	-	-	50,231 96
Pochasset bridge,	-	-	5,559 82
Wharf salaries,	-	-	5,199 42
Temporary engine house at Pettaconset,	-	-	8,543 02
Engine house at Pettaconset,	-	-	18,184 83
Natural filter basin,	-	-	29,353 56
Roads, slopes, &c., at Pettaconset,	-	-	9,104 39
Removing loam,	-	-	462 95
Iron screw piles,	-	-	3,766 46
Hydrant bolts,	-	-	1,207 21
Pipe bolts,	-	-	1,244 67
Photographs,	-	-	149 00
Hydrant heads,	-	-	6,603 84
Taps and stops,	-	-	13,552 56
Valve covers,	-	-	5,775 12
Service pipe,	-	-	25,211 01
Hydrant boxes,	-	-	18,881 10
Setting fire hydrants,	-	-	7,898 98
Valve boxes,	-	-	20,875 33
Check valves,	-	-	1,412 48
Air cocks, boxes, covers and setting,	-	-	500 05
Night and Sunday watch at engine house,	-	-	1,142 00
Pettaconset pumping station for land,	-	-	1,621 24
" " sundries,	-	-	2,383 05
" " engineer,	-	-	2,452 08
" " coal and wood,	-	-	8,887 23
" " labor on fuel,	-	-	928 63
" " firemen,	-	-	2,127 90
Setting blow-offs,	-	-	265 66
Ascertaining and removing nuisances on Pawtuxet			
river,	-	-	479 46
J. B. & J. M. Cornell,	-	-	20,280 80
S. F. & J. A. Gray,	-	-	2,187 50
Freeborn Johnson & Co.,	-	-	3,500 00
Taunton Brick Co.,	-	-	2,444 19
W. A. Burdick, agent,	-	-	3,500 00
G. B. & W. F. Inman,	-	-	16,600 00
Lobdell & Newmans,	-	-	5,450 00
Granite Railway Co.,	-	-	18,074 48
Town of Cranston,	-	-	5,000 00
Amount carried forward,	-	-	\$1,971,995 96

Amount brought forward,	-	-	\$1,971,995 96	
A. & W. Sprague, Manufacturing Co.,	-	-	2,500 00	
Thomas Phillips & Co.,	-	-	1,000 00	
Read & Richards,	-	-	8,000 00	
Atlantic DeLaine Co.,	-	-	5,351 08	
Gideon G. Hicks,	-	-	126 85	
Calvin C. Campbell,	-	-	3,500 00	
Nelson Titus,	-	-	31 98	
Walter Richmond,	-	-	13 58	
Providence Tool Co.,	-	-	121 38	
George H. Corliss,	-	-	18 99	
American Screw Co.,	-	-	665 78	
Franklin Foundry and Machine Co.,	-	-	374 19	
City Treasurer,	-	-	67,622 81	
" " for water payments,	-	-	105,492 40	
Testing pipe iron,	-	-	443 50	
Iron drain pipes and gate,	-	-	224 21	
Carting pipes,	-	-	26,198 95	
Counsel fees,	-	-	3,800 00	
Inspection of pipes,	-	-	7 353 64	
" " " pipe laying,	-	-	17,877 54	
" " " water fixtures,	-	-	1,332 09	
Testing bolts and composition castings,	-	-	34 25	
Laying water pipes,	-	-	267,636 68	
" service pipes,	-	-	13,194 16	
" suction " &c.,	-	-	85 00	
Drainage, pump and engine,	-	-	2,983 39	
Hydrants for street sprinklers,	-	-	1,652 98	
Boston hydrants,	-	-	22 68	
Water Meters,	-	-	25,206 35	
Worthington pumping engine,	-	-	36,725 58	
				\$2,571,586 00

ENGINEERING DEPARTMENT—

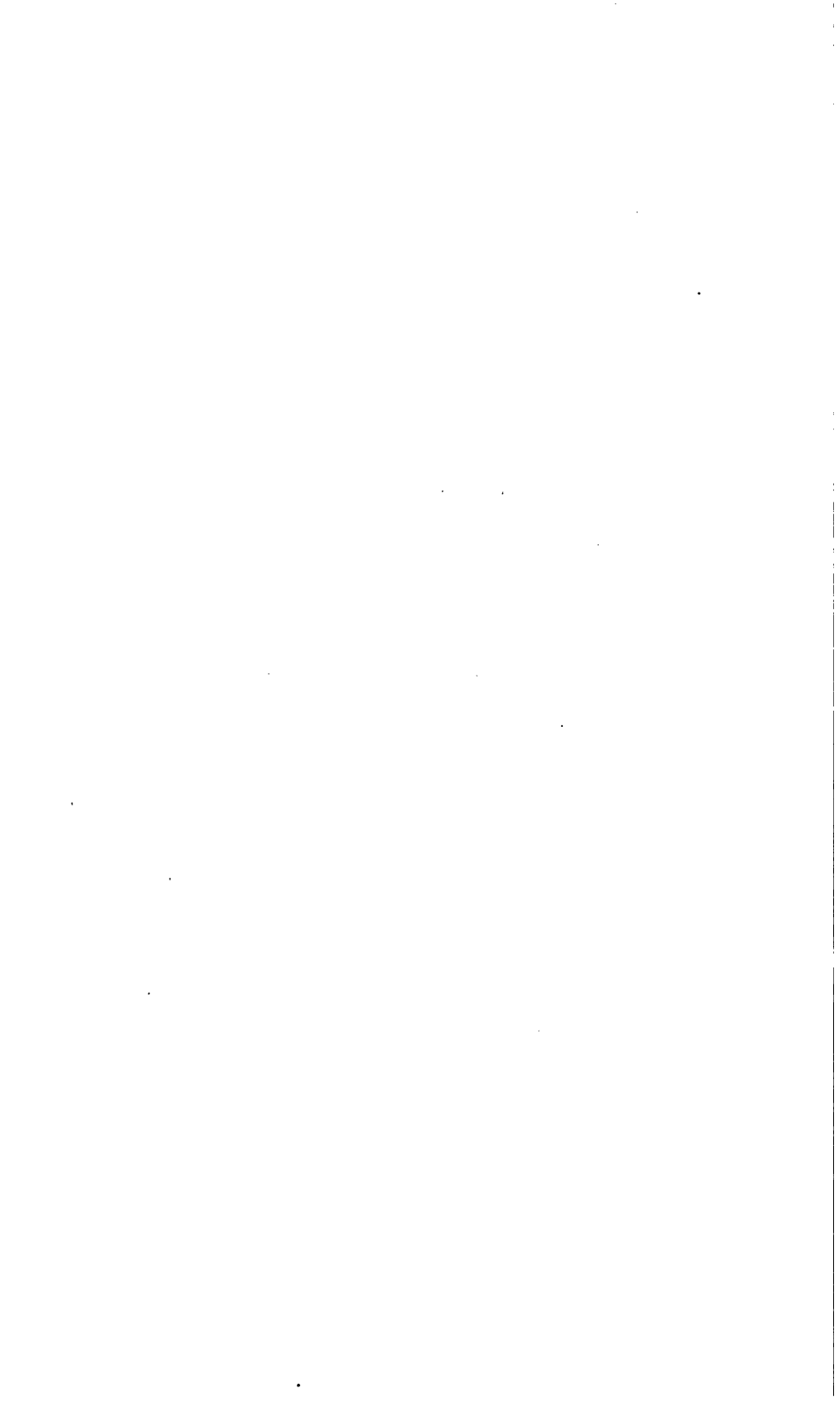
For Instruments,	-	-	2,268 57	
Tools,	-	-	642 25	
Furniture, stoves, gas fixtures, &c.,	-	-	2,353 68	
Books, stationery, &c.,	-	-	2,197 64	
Draughting,	-	-	3,523 52	
Labor,	-	-	3,977 43	
Horse and Wagon account,	-	-	1,291 33	
Horse keeping, shoeing, &c.,	-	-	1,181 45	
Horse-hire,	-	-	2,218 40	
Rent of offices,	-	-	4,790 61	
Fuel and lights,	-	-	580 65	
Janitor of rooms,	-	-	887 34	
Experimental filter,	-	-	91 08	
Sundries,	-	-	1,952 93	
Test wells,	-	-	1,579 40	
Consultations,	-	-	420 00	
Amounts carried forward,	-	-	\$29,956 28	\$2,571,586 00

REPORT OF THE WATER COMMISSIONERS. 35

Amounts brought forward,	-	\$29,956 28	\$2,571,586 00
Office building at Pettaconset, -	-	553 21	
" " " Sockanosset Reservoir,	-	563 22	
Stakes and strips, -	-	695 62	
Printing, -	-	220 27	
Maps, -	-	86 67	
Service pipe experiments, -	-	295 76	
Temporary assistance, -	-	6,565 72	
Salaries, -	-	96,601 75	
			<u>\$135,538 50</u>
			<u>\$2,707,124 50</u>

CR.

Hope Reservoir for land, (rents received and build- ings &c., sold,) -	-	5,883 28	
Sockanosset Reservoir for land (rents received, and wood &c., sold), -	-	1,444 49	
Real estate in Warwick, (rents received,) -	-	731 25	
Pettaconset pumping station for land, (rents re- ceived,) -	-	414 84	
Water privileges, mill and other real estate in Pawtuxet, (rents received,) -	-	2,389 53	
Warren Foundry and Machine Co., -	-	4,712 82	
Rhode Island Concrete Co., -	-	50 00	
Fales, Jenks & Sons, -	-	750 00	
John W. & James J. Newman, -	-	5,000 00	
Interest, -	-	54 66	
Water Meters, -	-	24,622 10	
Penalties, -	-	64 00	
Water, -	-	105,492 40	
Approved bills, -	-	2,555,515 13	
			<u>\$2,707,124 50</u>

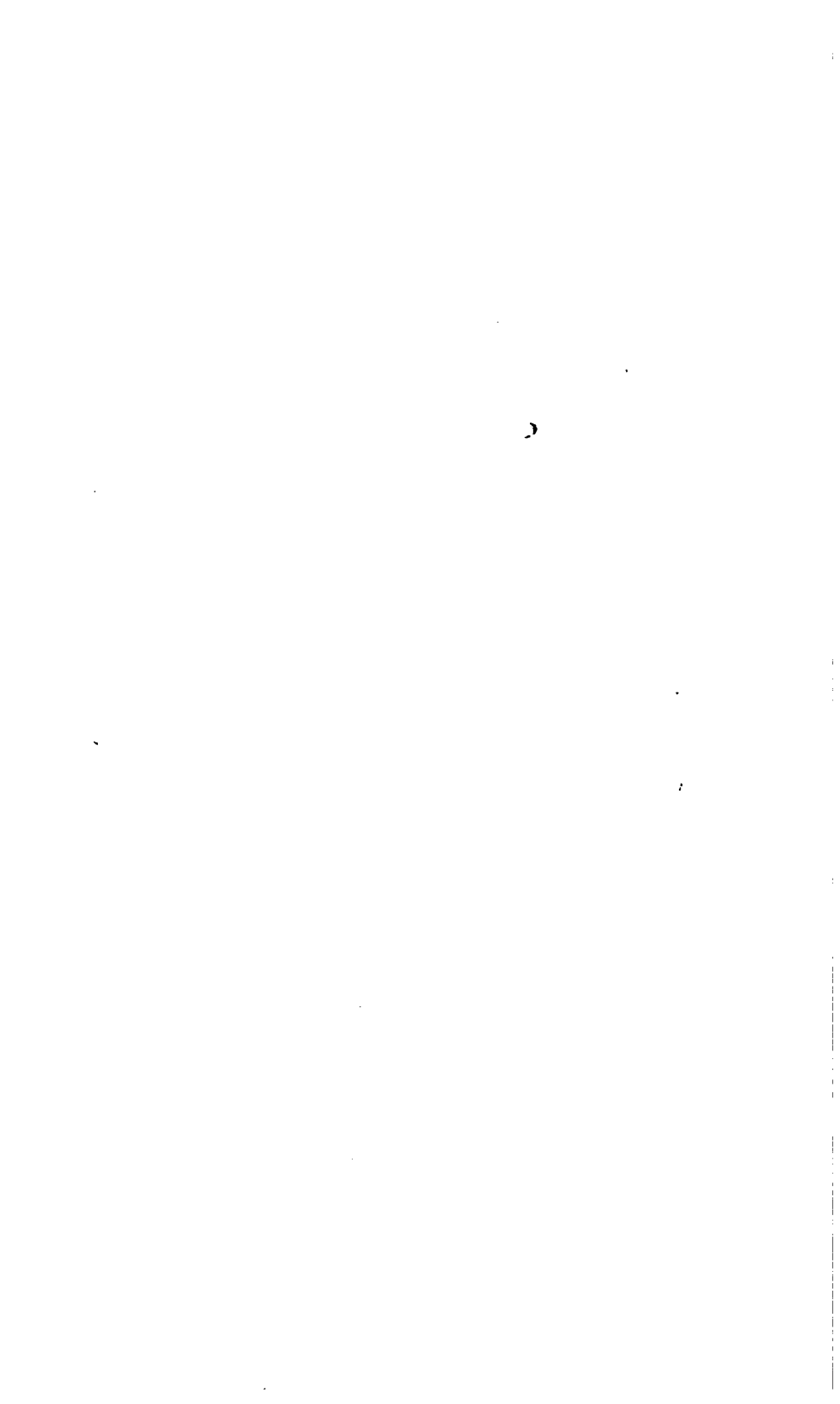


SIXTEENTH QUARTERLY REPORT
OF THE
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

OCTOBER 1, 1873.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1873.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main street.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, October 1st, 1873. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned, Water Commissioners, respectfully present their Sixteenth Quarterly Report:

The salary of Clinton D. Sellew, Secretary, has been increased to twenty-four hundred dollars per annum, from July 1, 1873.

The salary of Philip S. Chase, commissioners' clerk, has been increased to fifteen hundred dollars per annum, from July 1, 1873.

The salary of William H. Turner, clerk in the Engineering department, has been increased to twelve hundred dollars per annum, from July 1, 1873.

The salary of Walter F. Slade, service pipe clerk, has been increased to one thousand dollars per annum, from July 1, 1873.

The salary of S. Horace Wheeler, inspector of service pipes, has been increased to fifteen hundred dollars per annum, from July 1, 1873.

The salary of William F. Janes, assistant service pipe engineer, has been increased to eight hundred dollars per annum, from August 1, 1873.

Leonard N. Austin, Jr., of Providence, has entered upon the duties of commissioners' clerk, on trial, with a salary of eight hundred dollars per annum.

The commissioners, in their report of January 1st, 1873, say that they have agreed with Thomas J. Hill, for the continued occupancy of a portion of his wharf, for one year from February 1, 1873, at a rent of two thousand dollars per annum, with a conditional privilege of another year at the same rent. Mr. Hill was duly notified that the commissioners had elected to continue the occupancy, and he made no objection thereto. The agreement for such occupancy, is now, therefore, complete.

John W. Mathewson & Co., Greenville, Smithfield, R. I., have agreed to furnish dimension foundation stone for chimneys and retaining walls, according to plans and specifications, delivered on the ground at Pettaconset, for twenty-five dollars per cubic yard, measured in place.

An offer of W. A. Burdick, Agent, to furnish a granite drinking-trough according to plans and specifications, for use at the junction of South Main and Wickenden streets, for the sum of two hundred dollars, was accepted.

A contract has been made with W. A. Burdick, Agent, to furnish and deliver at Pettaconset, granite for the engine and boiler-house for the sum of thirty-two thousand dollars.

An offer of Fales, Jenks & Sons, to do the gate and valve work for Hope Reservoir chambers, for the sum of seventeen hundred and ninety-two $\frac{20}{100}$ dollars, "tubing and bolts at cost, extra," was accepted.

An offer of Hopkins & Pomroy, to deliver one thousand tons "Old Company," Lackawanna coal, broken, part at Hope pumping-station, at \$7.25 per ton of 2000 lbs., and part at Pettaconset, at \$8.00, was accepted. Their offer to furnish the

quantity required at Pettaconset for the month of August last at \$7.75 per ton, was also accepted.

Proposals for furnishing 1000 tons of 2240 lbs. cast iron water pipes, from eight inches to sixteen inches in diameter, and separate proposals for 2040 tons thirty inches in diameter, were opened on 9th September, ultimo. The proposal of the Gloucester Iron Works, Gloucester City, Camden County, N. J., for furnishing the thirty-inch pipes at \$53.91 per ton of 2240 lbs. to be delivered on wharf in this city, on or before the 1st day of June, 1874, was accepted, and all other proposals were rejected. On the same day a bargain was made for the other and smaller pipes, with the Warren Foundry and Machine Company at \$58.50 per ton of 2240 lbs., one half to be delivered this Fall and the remainder early in the Spring. The contracts have been duly executed.

An agreement has been made with S. F. & J. A. Gray, of Danversport, Mass., for the delivery, on wharf in this city, of 130,000, (more or less, as may be needed to complete the building,) best Danvers face bricks for engine and boiler-house at Pettaconset, at \$25. per M., one half to be delivered this Fall and the remainder early in the Spring.

An offer of W. A. Burdick, agent, to furnish granite for retaining walls near the coal vaults at Hope pumping-station, for \$1.50 per cubic foot, has been accepted.

The Commissioners have been furnished with a certified copy of the following resolutions passed by the town of North Providence, April 7th, 1873 :

“ Resolved, That whenever the Water Commissioners of the city of Providence shall extend the water pipes into any portion of this town, for the purpose of supplying water to any persons or corporations of this town, the said commissioners be and they are hereby requested to set fire hydrants along the highways of this town, in which said pipes are laid, at the

same distance from each other as the fire hydrants are set in said city.

"Resolved, That this town will pay for such hydrants so located, the same price per annum as is paid by the city of Providence for the fire hydrants in the streets of said city.

"Resolved, That the Board of Engineers of the city of Providence be and they are hereby requested to take charge and control of said fire hydrants, so located in this town, in the same manner as though said hydrants were in said city of Providence.

"Resolved, That it be hereby recommended for the citizens in the districts of this town when any such hydrants are located to organize Hose Companies for the use of such hydrants and for the better protection of their property from fire.

"Resolved, That permission is hereby given to the Water Commissioners of the city of Providence to lay a twelve-inch water pipe across Tar Bridge in the roadway thereof, the same to be done in such manner as to not obstruct."

The following resolution was adopted by the Water Commissioners, 24th ultimo, Mr. Cooke voting in the negative: .

Resolved, That the Chief Engineer is hereby requested to cause all work on the engine house at Pettacomet, necessary only for Cornish Engines, to be suspended.

The gate-houses at Sockanosset Reservoir have been completed.

The Corliss Engine, for the High Service, has been erected at Hope Pumping Station. It was put in motion 3d September, ultimo, but has not yet pumped water into the distribution pipes. Mr. Corliss, in the meantime, has been engaged in altering and adjusting details, and has given the commissioners no notice of readiness to pump.

The average daily consumption of water, including leakage has been, for the last quarter, about 2,100,000 gallons.

High water in Sockanosset Reservoir is 180½ feet above

mean high tide in Providence river. At 7 o'clock this morning the height of water in the reservoir was 180.54 feet.

Considerable progress has been made during the last quarter in the construction of Hope Reservoir.

The following old drinking troughs are now supplied with Pawtuxet water :

Exchange Place;	Junction North Main and
Broad Street ;	Benefit streets ;
Junction High and Westminster	Charles street ;
streets ;	Canal street ;
Junction High and Cranston	Bassett street.
streets ;	
Junction Federal and Kenyon	
streets ;	

New drinking troughs have been placed
In Waterman street, at Red Bridge, and
At Junction of South Main and Wickenden streets.

The drinking fountain which was last year placed in Public street, near Greenwich street, and which was broken down by a runaway team, has been replaced with one which is more approved.

A drinking fountain has been set in Angell street, near Brown Street, the whole cost of which was defrayed by Mr. Frank E. Richmond.

The Athenæum drinking fountain, erected by Mrs. Anna Richmond, has been supplied with water.

A self-closing drinking fountain has been placed at the junction of Westminster and Weybosset streets.

An ornamental fountain furnished by private subscription, for the setting of which an appropriation was made by the City Council, has been placed in Abbott Park Place.

The following old drinking troughs are to be replaced by new ones :

Eddy Street ; Dexter street ; Wickenden street and India street.

Plumbers' licenses have been issued as follows :

Henry L. Norris, John McKenzie.

The number of Plumbers' licenses issued to date is thirty-seven.

The following statement shows the length of pipes laid during the last quarter ; the sizes of the pipes ; where laid, and the totals since the commencement of the work :

24 INCH.

In College street,	5 feet.
Including 1 branch.	
Previously,	18,810 feet
Total,	<u>18,815 feet</u>

20 INCH.

In Adelaide and Brayton avenues, and in Broad street,	487 feet.
Including 4 cut pipes, 5 branches, 8 curved pipes, 1 gate, and 2 reducers.	
Previously,	6,073 feet
Total,	<u>6,560 feet</u>

16 INCH.

In Broad, Cranston and North Main streets, and in Branch, Brayton and Thurber's avenues,	1,885 feet.
Including 15 cut pipes, 14 branches, 3 curved pipes, 4 gates, and 2 reducers.	
Previously,	13,686 feet
Total,	<u>15,571 feet</u>

12 INCH.

In Broad, Cranston, Messer and North Main streets,	6,678 feet.
--	-------------

Including 31 cut pipes, 44 branches, 2 curved pipes, 9 gates, 2 bevel hubs, and 1 reducer.

Previously,	. . . . .	17,349 feet.
Total,	. . . . .	<u>24,027 feet.</u>

10 INCH.

In Cove street,	. . . . .	19 feet.
Including 2 branches.		
Previously,	. . . . .	7,653 feet.
Total,	. . . . .	<u>7,672 feet.</u>

8 INCH.

In Acorn, Camp, Davis, Dorrance, Knight, Martin and Promenade streets, in Douglas Avenue and in Hartford road, (Johnston),		6,969 feet.
Including 31 cut pipes, 46 branches, 5 curved pipes, 11 gates, 1 bevel hub, and 2 reducers.		
Previously,	. . . . .	49,855 feet.
Total,	. . . . .	<u>56,824 feet.</u>

6 INCH.

In A, Almy, Arnold, Bowen, Cedar, Chaffee, (North Providence), Charles Field, College, Cory, Cottage, Dawson, Dexter, Diamond, Division, Dorrance, Eddy, Ford, Fountain, Hammond, Harkness, High, Howell, Hudson, Jackson, Jefferson, Jenckes, Jenkins, John, Lloyd, Meader, Mulberry, North Court, Oak, Orms, Paine, Park, Penn, Pike, Plainfield, (Johnston), Pratt, Public, Sheldon, Sprague, Spruce, State, Superior, Tobey, Transit, Valley, Wayland, West Exchange, West Park, Willow, and Woodland streets, in Belle View, Doyle

and Wayland Avenues, Oliver Place, Oak Court, for Fuller Iron Works from Pike street, and for Providence Tool Company from Central and from Whelden streets, and for O. A. Ballou from Lloyd street,		34,463 feet.
Including 196 cut pipes, 105 branches, 26 curved pipes, 72 gates, 20 bevel hubs, and 1 reducer.		
Previously,		267,890 feet.
Total,		<hr/> 302,353 feet.
Total of all sizes during the last quarter,		50,506 feet.
or 9.56 miles.		
Previously, including 30 and 36 inch, of which none have been laid during the last quarter,		427,164 feet.
Total,		<hr/> 477,670 feet.
or 90.46 miles.		

Ninety-six fire hydrants have been set since the date of the last quarterly report, one in each of the following locations, those marked * being in North Providence, and those marked † in Johnston.

A	street,	south-east corner of Perkins street.
Acorn	"	east side, about half way between Spruce street and Cedar street.
"	"	south-east corner of West Exchange street.
Arnold	"	south-west corner of Thayer street.
Belle View Avenue,		north side, about 440 feet east of Cranston street.
"	"	north side, about 900 feet east of Cranston street.
Branch	"	south-west corner of Thurber's Lane.
Broad	street,	east side, opposite north line of Potter's avenue.

Broad	street	south-east corner of Short street.
"	"	east side, opposite south line of Congress street.
"	"	east side, about 140 feet south of Square street.
"	"	south-east corner of Gallup street.
"	"	east side, about 80 feet north of Thurber's avenue.
Bowen	"	north side, about 180 feet west of Prospect street.
Camp	"	north-east corner of Pleasant street.
"	"	south-east corner of Locust street.
"	"	north-east corner of Cypress street.
*Chaffee	"	north-west corner of Capron street.
Charles Field	"	south side, about 200 feet east of Brook street.
Cranston	"	north-east corner of Belle View avenue.
"	"	east side, about 70 feet north of Althea street.
"	"	north-east corner of West Elmwood avenue.
"	"	east side, about half way between Dahlia street and Lilac street.
"	"	east side, about half way between Jessamine street and Potter's avenue.
"	"	north-east corner of Anthony street.
"	"	east side, about 15 feet north of Stonington Railroad bridge.
College	"	north side, about 160 feet west of Prospect street.
Cottage	"	west side, about 160 feet north of Dean street.
Davis	"	south-west corner of Orms street.
Diamond	"	north side, about 220 feet east of Crans-ton street.
"	"	north side, opposite east line of Susan street.

Diamond street		north-west corner of Superior street.
*Douglas avenue,		east side, opposite north line of Allen street.
* " "		east side, opposite north line of Bernon street.
* " "		north-east corner of Bergen street.
" "		north-east corner of Whipple street.
Doyle "		north side, about 500 feet east of Camp street.
Ford street,		south side, about 340 feet east of Crans-ton street.
" "		south side, about 800 feet east of Crans-ton street.
Hammond "		west side, about 240 feet south of Division street.
Harkness "		north-west corner of Meader street.
†Hartford Road,		south side, about 8 feet west of west end of Railroad barn.
Howell street,		north side, about 380 feet east of Camp street.
Jenckes "		north-east corner of Pratt street.
Jenkins "		north-east corner of Graham street.
" "		north-east corner of Padelford street.
" "		north-east corner of Knowles street.
John "		north side, about 160 feet west of Brook street.
" "		north side, about 250 feet west of Thayer street.
Knight "		east side, about 80 feet south of Grove street.
" "		north-east corner of Ring street.
" "		east side, about half way between Penn street and Tell street.
" "		south-east corner of Gesler street.
" "		north-east corner of first alley north of Swiss street.
Messer "		north-east corner of Oak street.

Messer	street,	north-east corner of Willow street.
"	"	north-east corner of Paine street.
"	"	north side, about 240 feet west of Crans- ton street.
North Main	"	north-west corner of Livingston street.
"	"	west side, opposite south line of Jenkins street.
"	"	west side, opposite north line of Earl's Lane.
Oak	"	north-east corner of Norfolk street.
"	"	north side, about half way between Mes- ser street and Norfolk street.
Ocean	"	north-east corner of Seymour street.
"	"	east side, half way between Potter's avenue and Sayles street.
"	"	east side, half way between Square street and Sayles street.
"	"	south-east corner of Salisbury street.
*Orms	"	south-east corner of Jefferson street.
Penn	"	south side, about half way between Almy street and Courtland street.
"	"	south side, about half way between Courtland street and Knight street.
Pike	"	south-west corner of Benefit street.
Pitman	"	north-east corner of Gano street.
Promenade	"	north side, about 560 feet west of Park street.
State	"	south-west corner of Orms street.
Sheldon	"	north side, opposite west line of Traverse street.
Superior	"	south side, about 190 feet east of Crans- ton street.
"	"	south side, opposite west line of Ware street.
Spruce	"	north-east corner of, and Alley half way between Acorn street and Tefft street.

Spruce	street,	north east corner of Eutaw street.
"	"	north side, opposite east line of Dean street.
Transit	"	north side, about 168 feet west of Brook street.
"	"	north side, about 143 feet west of Thayer street.
Tobey	"	east side, about half way between Meader street and Broadway.
"	"	east side, about half way between Meader street and High street.
Valley	"	west side, about 240 feet north of Broadway.
"	"	west side, about 140 feet south of School street.
"	"	north-west corner of Delaine street.
"	"	west side, about half way between Helme street, and Grove street.
"	"	west side, about 260 feet north of Helme street, near the Woonasquattucket River.
Wayland	"	east side, about 80 feet north of Manning street.
"	avenue,	south-east corner of Humboldt avenue.
† Webster	"	south side, opposite west line of Hartford Road.
†	"	south-east corner of Winsor street.
†	"	south side, about 42 feet west of Smith street.
West Park	street,	south-east corner of Holden street.
Woodland	"	north side, about 250 feet west of Park street.

The total number of fire hydrants is now six hundred and eighty-nine.

One hydrant has also been set, for use in filling sprinkling carts, etc. The number of such hydrants is now twenty-three,

all of which can be used with a single line of hose for extinguishing fires.

One hundred and seventy Ball & Fitts' Water Meters, made by the Union Water Meter Co., and twenty-two five-eighths-inch Worthington Water Meters, have been put in at the expense of water takers, since the date of the last report. One Ball & Fitts' four-inch Water Meter was set August 9th, at the expense of the city.

There are one thousand and fifty Water Meters now in use, viz :

814 five-eighths inch.

139 three-quarters inch.

55 one inch.

36 one and one half inch.

5 two inch.

1 four inch.

1,050

The total number of applications for a supply of water is five thousand and thirty-one.

The number of service stops opened during the last quarter is six hundred and seventeen ; six of which are for fire purposes only.

The total number of service stops opened to date is thirty-two hundred and thirty-one.

Seven stops have been closed during the last quarter for non-payment of bills, three of which have been re-opened on payment of bills, and a penalty in each case of two dollars. One stop has been closed to enable the owner to make repairs, there being no stop-cock on the premises, and was re-opened upon payment of two dollars. Of the two stops remaining closed at the commencement of the last quarter for

non-payment, one has been re-opened upon payment of bill and of two dollars penalty. Five stops closed for non-payment remain unopened.

Water is now supplied for the following uses :

4 bakeries; 30 banks; 39 bar-rooms; 1 bath-house; 1 bath-house—Turkish; 82 boarding-houses; 4 bottling establishments; 37 building purposes; 1 car house; 2 carriage-depositories; 1 Christian Union; 13 churches; 1 city barn; 1 city building; 1 city bridge, Point street; 5 city drinking fountains; 11 city drinking troughs; 689 city fire hydrants; 9 city fire steamer stations; 1 city hose house; 6 club rooms; 12 coal yards; 1 colored shelter; 1 conservatory of music; 2 convents; 1 court house; 1 decorator; 1 Dexter Asylum; 1437 dwellings of one family; 942 dwellings of two families; 81 dwellings of three families; 88 dwellings of four families; 13 dwellings of five families; 17 dwellings of six families; 4 dwellings of seven families; 3 dwellings of eight families; 2 dye houses; 3 elevators; 1 engraver; 1 express carriage house; 38 fountains—private; 1 fountain—public; 31 fire supplies—private; 1 furrier; 1881 garden and street hydrants; 3 gas-holders; 4 gold and silver platers; 5 gold and silver refiners; 2 grain elevators; 21 green houses; 9 halls; 1 hall of Latter-day Saints; 1 Home for Aged Women; 1 hospital; 14 hotels; 1 infirmary; 3 lodging-houses; 2 lumber dealers. *Manufacturing Establishments*,—2 belt and picker; 3 blank book; 1 Bologna sausage; 1 box; 1 braiding works; 2 brass foundries; 1 brewery; 1 brush; 1 butt; 6 carriage; 2 cement pipe; 1 chain; 5 cigar; 1 cigar box; 4 cloak and dress; 3 confectiionery; 1 corset; 3 colorers of jewelry; 7 cotton; 1 crocus; 1 distillery; 3 die sinkers; 1 dye wood; 1 dyeing, bleaching and calendering company; 1 emery wheel; 1 eyelet; 2 file; 3 furniture; 1 gas; 1 gas burners; 2 gas fixtures; 1 geers; 1 hat; 1 harness; 1 horse shoe; 1 hulled corn; 2 ice cream and soda water; 1 iron company; 1 iron fence; 8 iron foundries; 1 Japan switch; 1 jewelers' cards; 71 jewelry; 3 lapidaries; 16 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 2 paper

box; 1 paper collar; 2 paper cop tube; 1 pattern; 3 patent medicine; 1 picture frame; 2 pump; 1 reed; 1 rubber tubing; 4 sash and blinds; 1 screw; 1 sheet iron; 2 shirt; 2 silver ware; 5 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engines; 1 stencil plate; 1 stove; 1 tanner; 1 tin; 4 tool; 2 top roll; 5 woolen goods; 1 yeast. *Markets*,—26 fish; 66 meat. *Mills*,—1 drug and grain; 2 flour and grain; 4 marble works; 1 paint; 8 planing. 1 music hall; 2 odd fellows' halls; 2 opera houses; 2 orphan asylums; 5 organs; 5 oyster houses; 397 offices; 5 photographers; 5 plaster and stucco workers; 4 plumbers; 5 police stations; 11 printing establishments; 9 provision curers and packers; 7 railroads; 1 reading room; 30 restaurants; 1 roofer. *Saloons*,—4 billiard; 2 bowling; 5 ice cream; 10 lager beer; 6 oyster. *Schools*,—1 boarding; 8 private; 27 public; 1 reform. *Shops*,—17 barber; 5 blacksmith; 6 carpenter; 3 cooper; 1 junk; 6 paint; 1 painter; 4 shoemaker; 19 tailors; 4 tinman. *Stables*,—6 hack; 34 livery; 128 private; 2 sale; 41 work. 12 steamboats; 11 steamships; 5 steam and gas pipe fitters. *Stores*,—1 agricultural implements; 27 apothecary; 1 auction; 3 book; 21 boot and shoe; 1 carpet; 1 carriage trimmings; 10 cigars; 16 clothing; 7 confectionery; 2 drug; 17 dry goods; 72 fancy goods; 7 flour and grain; 11 fruit; 8 furniture; 6 gents' furnishing goods; 73 grocery, retail; 14 grocery, wholesale; 5 hardware; 2 hide and leather; 2 hoop skirts; 10 house furnishing goods; 2 house paper; 3 iron and steel; 9 jewelry; 9 liquor; 1 lime and brick; 2 manufacturers' supplies; 13 millinery; 7 newspaper; 3 paint and oil; 2 paper and paper stock; 6 produce, wholesale; 3 sewing machines; 3 stationery; 2 stove; 3 tea; 2 trunk; 1 umbrella; 1 wool; 2 woolen goods; 15 not classed. 1 store house; 2 undertakers; 1 United States Custom house building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 1 wood yard.

The amount of expenditures during the last	
quarter, is	\$247,361 82
The total amount of expenditures is,	2,802,876 95

The total amount of appropriations is, . . .	3,000,000 00
The unexpended balance is, . . .	197,123 05
The amount received during the last quarter, all of which has been paid to the city treasurer is,	
For water supplies, . . .	\$15,205 97
For water meters, . . .	6,869 30
For penalties, . . .	10 00
For sundries, . . .	14,716 23
	<hr/>
	36,801 50
The amount received for water in 1872 was,	41,003 51
The amount received for water during the first three quarters of 1873 was, . . .	79,694 86
The total amount received for water to date is,	120,698 37
The amount of all receipts to date is,	209,416 71

It is not probable than any additional appropriation will be needed during the present quarter.

A bill against Nelson Titus, of \$31.98, for repairs to a fire hydrant broken by him in removing a building, remains unpaid. The Commissioners suggest that the city council should refuse permission to remove any building when the work is to be done by him, unless this bill shall meantime have been paid.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of Ledger, September 30, 1873, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Water Commissioners which relates to Sewers, is presented herewith

JOSEPH J. COOKE,	} <i>Water</i>
CHAS. E. CARPENTER,	
WILLIAM CORLISS,	

Commissioners.

**SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS,
ERS, FROM JULY 1, 1873, TO SEPTEMBER 30, 1873.**

3205	Samuel M. Gray, paid by him for stone paving on Pawtuxet river bank, - - - - -	\$223 68
3206	Richard Burr, labor at Hope Engine House, - - - - -	14 70
3207	Patrick Burns, " " " " " &c., - - - - -	45 10
3208	Kenneth McKay, building walls of coal vaults, Hope Engine House, - - - - -	417 20
3209	Felix Johnson, labor on gate houses at Sockanosset Reservoir, - - - - -	780 85
3210	Calvin C. Campbell, on account of granite rubble, - - - - -	4,180 00
3211	Samuel M. Gray, paid by him for labor at Pettaconset, - - - - -	5,024 55
3212	" " " " " " " " - - - - -	330 95
3213	W. A. Burdick, Agent, an account of granite for gate chambers, Hope Reservoir, - - - - -	1,000 00
3214	W. A. Burdick, Agent, granite for gate houses, Sockanosset Reservoir, - - - - -	1,064 50
3215	Alva Carpenter, gate box frames and covers, - - - - -	122 18
3216	George W. Smith, cutting curbstones for hydrant boxes, - - - - -	8 00
3217	Alfred Mundell, use of pump at Pettaconset, - - - - -	15 00
3218	M. D. Copeland, carting pipes and castings, - - - - -	127 97
3219	George W. Lobdell & J. W. & J. J. Newman, excavating for coal vaults at Hope Engine House, - - - - -	529 30
3220	G. B. & W. F. Inman, trenching and back-filling and laying water pipes, - - - - -	6,500 00
3221	G. B. & W. F. Inman, carting pipes, - - - - -	576 59
3222	" " " setting fire hydrants, - - - - -	207 50
3223	" " " laying water pipes, repairing streets, &c., - - - - -	154 38
3224	G. B. & W. F. Inman, labor at Hope Engine House, - - - - -	358 08
3225	Taunton Brick Co., bricks, - - - - -	6,000 00
3226	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry and Machine Co.,) - - - - -	212 34
3227	Lobdell & Newmans, on account of construction of Hope Reservoir, - - - - -	2,325 00
3228	Seth Clarke, cutting stone at Hope Engine House, - - - - -	20 87
3229	Thomas Phillips & Co., on account of laying service pipes, - - - - -	1,500 00
3230	John W. & James J. Newman, contract reservation for laying water pipes, - - - - -	5,000 00
3231	Builders' Iron Foundry, special castings, &c., - - - - -	1,274 51
3232	Dexter Gorton & Co., lumber, carpenters' work, &c., - - - - -	780 15
3233	Fales, Jenks & Sons, on account of gates, hydrants and hydrant boxes, - - - - -	5,000 00
Amount carried forward, - - - - -		\$43,794 40

	Amount brought forward,	-	-	-	\$43,794 40
3234	Stephen Knobb, carting stone for gate chambers, Hope Reservoir,	-	-	-	89 57
3235	Felix Johnson, labor on gate houses at Sockanosset Reservoir,	-	-	-	676 70
3236	Fuller Iron Works, special castings,	-	-	-	2,355 96
3237	Charles H. Parkhurst, counsel fees,	-	-	-	400 00
3238	William Elsbree, setting fire hydrants, &c.,	-	-	-	6 63
3239	H. B. Bowen, pipe bolts, &c.,	-	-	-	187 57
3240	Warren Foundry and Machine Co., on account of water pipes,	-	-	-	39,753 24
3241	Hopkins & Pomroy, coal,	-	-	-	3,100 10
3242	Providence Steam Engine Co., repairs to Worthington Pumping Engine, &c.,	-	-	-	253 14
3243	Kenneth McKay, building walls of coal vaults, Hope Engine House,	-	-	-	468 94
3244	William H. Miller & Co., repairing tools, &c.,	-	-	-	368 63
3245	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
3246	Samuel M. Gray, " " " &c.,	-	-	-	336 00
3247	Charles H. Swan, " " " "	-	-	-	166 67
3248	Otis F. Clapp, " " " "	-	-	-	208 33
3249	Howard A. Carson, " " " "	-	-	-	208 33
3250	William T. Schneider, " " " "	-	-	-	100 00
3251	O. Frank Allen, " " " "	-	-	-	125 00
3252	John E. Bowen, " " " "	-	-	-	100 00
3253	Lucius J. Sampson, " " " "	-	-	-	83 33
3254	George H. Slade, " " " "	-	-	-	83 33
3255	Daniel D. Waterman, " " " "	-	-	-	66 67
3256	Charles F. Janes, " service pipe "	-	-	-	100 00
3257	William F. Janes, " asst. " " "	-	-	-	50 00
3258	Augustus F. Nagle, " mechanical " "	-	-	-	200 00
3259	George F. Munro, " student, engineering department,	-	-	-	41 67
3260	Henry N. Francis, " " " "	-	-	-	41 67
3261	Leprilete Sweet, 2d, " " " "	-	-	-	41 67
3262	Edmund B. Weston, " " " "	-	-	-	41 67
3263	Mark Wilmarth, " " " "	-	-	-	41 67
3264	Louis R. Daniels, " " &c., " "	-	-	-	50 00
3265	Walter R. Jackson, " " " "	-	-	-	33 33
3266	Edwin P. Dawley, " " " "	-	-	-	33 33
3267	Charles M. Hunt, " " " "	-	-	-	25 00
3268	Frank B. Ferris, " " " "	-	-	-	25 00
3269	Thomas L. Botts, " " " "	-	-	-	25 00
3270	William H. Olmstead, " " " "	-	-	-	25 00
3271	William M. Brown, Jr., " "on trial, " "	-	-	-	33 33
3272	Walter F. Slade, salary as service pipe clerk, engineering department,	-	-	-	83 33
3273	Joshua C. Drown, Jr., " clerk engineering department,	-	-	-	75 00
3274	William H. Turner, " " " "	-	-	-	100 00
3275	Daniel C. Stone, salary as temporary office assistant, engineering department,	-	-	-	39 60
	Amount carried forward,	-	-	-	\$94,267 81

Amount brought forward,			\$94,267 81
3276	Louis W. Peck, salary as temporary office assistant, engineering department,	-	48 00
3277	Andrew B. Purdy, salary as superintendent of pipe work,	-	166 67
3278	Elbert Purdy, salary as inspector on pipe line,	-	104 00
3279	William H. Patterson, salary as inspector on pipe line,	-	104 00
3280	Foster S. Dennis, Jr., " " " "	-	104 00
3281	Samuel R. Eccleston, " " of pipes,	-	135 00
3282	S. Horace Wheeler, salary as inspector of service pipes,	-	104 00
3283	Henry M. Wilcox, salary as assistant inspector of service pipes,	-	78 00
3284	Frederic A. Arnold, salary as inspector of water fixtures,	-	83 33
3285	Jesse E. Gray, " " at Hope Reservoir,	-	140 00
3286	George H. Whitaker, " " " " " "	-	140 00
3287	George H. DeForrest, " time keeper " " " "	-	63 00
3288	Henry G. Dennis, " superintendent of pipe yard,	-	125 00
3289	Richard M. Wood, " clerk at pipe yard,	-	66 67
3290	Jeptha Baker, " keeper of Sockanosset Reservoir,	-	72 50
3291	George F. Battey, " pumping engineer,	-	100 00
3292	John Hamilton, " fireman,	-	86 50
3293	George F. Barney, " " " "	-	67 00
3294	Thomas A. McDonald, " engineer of drainage engine,	-	7 50
3295	William H. Thomas, " " " " " "	-	9 00
3296	William F. Tanner, " axeman,	-	52 00
3297	Thomas O. Gushee, " commissioner's clerk,	-	83 33
3298	Phillip S. Chase, " " " "	-	125 00
3299	Clinton D. Sellew, salary as secretary of water commissioners,	-	200 00
3300	George F. Johnson, care of rooms,	-	57 24
3301	Charles H. Pierce, paid by him for sundries,	-	93 00
3302	" " " " labor at wharf,	-	764 00
3303	Samuel M. Gray, horse hire and sundries,	-	135 07
3304	Gladding Bros. & Tibbitts, stationery,	-	29 76
3305	Knowles, Anthony & Danielson, advertising,	-	4 81
3306	Providence Press Co., advertising,	-	11 81
3307	John H. Appleton, analysis,	-	5 00
3308	William A. McKay, horse-shoeing,	-	5 00
3309	Caffrey & Brooks, galvanized iron pipe, &c.,	-	9 25
3310	James Crawford, painting and lettering rods,	-	10 00
3311	Michael Corrigan, carting sand,	-	14 25
3312	Kenneth McKay, labor at Hope Engine House, coal vaults,	-	15 20
3313	Providence & New York Steamship Co., freight of roofs for gate houses, Sockanosset Reservoir, (charged to J. B. & J. M. Cornell,) -	-	17 81
3314	John Salisbury, labor, &c., on derrick,	-	32 45
3315	R. S. Burrough & Co., oil,	-	84 90
3316	Corliss Steam Engine Co., labor, &c.,	-	43 60
3317	W. Congdon & Sons, steel tape, chain, bars, &c.,	-	51 01
3318	William S. Briggs, horse hire by engineers,	-	75 00
3319	George W. Miller, safe,	-	80 00
Amount carried forward,			\$98,020 67

	Amount brought forward,	-	-	\$98,020 67
3320	Lobdell & Newmans, labor, &c., at Hope Engine House,	-	-	131 95
3321	Hammond, Angell & Co., printing,	-	-	183 16
3322	M. D. Copeland, teaming,	-	-	216 00
3323	Flint Mills, stone gear,	-	-	300 00
3324	Felix Johnson, labor on gate houses at Sockanosset Reservoir,	-	-	668 79
3325	Hopkins & Pomroy, cement, carting bricks, &c.,	-	-	1,311 51
3326	Union Water Meter Co., meters,	-	-	3,137 75
3327	Samuel M. Gray, paid by him for labor at Pettacoonset,	-	-	245 84
3328	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	358 98
3329	Samuel M. Gray, paid by him for labor at Pettacoonset,	-	-	6,205 04
3330	Charles H. Pierce, " " " Hope Pumping Station, &c.,	-	-	94 92
3331	Thomas Phillips & Co., on account of laying service pipes,	-	-	2,000 00
3332	Sloop Ida E. Vail, freight of bricks, (charged to S. F. & J. A. Gray.)	-	-	130 00
3333	Calvin C. Campbell, on account of granite,	-	-	4,101 80
3334	Samuel M. Gray, paid by him for labor at Pettacoonset,	-	-	282 75
3335	Lobdell & Newmans, on account of construction of Hope Reservoir,	-	-	4,300 00
3336	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	11 46
3337	Thomas J. Hill, rent of wharf,	-	-	500 00
3338	Tuttle & Hobbs, horse keeping, engineering department,	-	-	86 37
3339	J. Wheldon & Sons, stone,	-	-	1,352 85
3340	Read & Richards, plastering at Hope Engine House,	-	-	24 20
3341	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	204 28
3342	Leonard & Ellis, oil,	-	-	60 63
3343	Michael Tallant, labor at Hope Pumping Station,	-	-	73 00
3344	James A. Potter & Co., lumber,	-	-	47 61
3345	W. P. Knickerbocker & Co., rope, &c.,	-	-	87 34
3346	Lobdell & Newmans, labor at Hope Pumping Station,	-	-	127 78
3347	Daniel F. Burlingame, repairing tools, &c.,	-	-	84 62
3348	Dexter Gorton & Co., lumber, carpenters' work, &c.,	-	-	2,517 13
3349	G. B. & W. F. Inman, trenching and backfilling and for laying water pipes,	-	-	7,100 00
3350	G. B. & W. F. Inman, carting pipes,	-	-	635 57
3351	" " " setting fire hydrants, repairing streets, &c.,	-	-	428 26
3352	George W. Smith, cutting curbstones for hydrant boxes,	-	-	32 00
3353	H. B. Bowen, hydrant bolts and pipe bolts,	-	-	110 24
3354	Fuller Iron Works, special castings,	-	-	1,885 85
3355	Builders' Iron Foundry, " "	-	-	877 07
3356	Hopkins & Pomroy, coal,	-	-	1,715 24
3357	Wood & Winsor, machinist's labor, &c.,	-	-	112 38
3358	George W. Smith, labor on granite for fountain on Abbott Park, (charged to W. A. Burdick, Agent.)	-	-	16 75
3359	M. Golrick, slating, &c., at Hope Engine House,	-	-	22 65
3360	Asa K. Lilly, setting foundation for fountain on Abbott Park,	-	-	330 00
3361	Michael Corrigan, carting gravel at Hope Pumping Station,	-	-	33 00
	Amount carried forward,	-	-	\$139,865 44

	Amount brought forward,	-	-	-	\$139,865 44
3362	T. & W. Breck, rent of offices,	-	-	-	750 00
3363	Warren Foundry and Machine Co., water pipes,	-	-	-	16,223 68
3364	Stephen Knobb, carting granite,	-	-	-	6 47
3365	" " " iron beams and granite,	-	-	-	40 64
3366	Michael Corrigan, carting sand and gravel,	-	-	-	70 50
3367	Hopkins & Pomroy, cement, carting bricks, &c.,	-	-	-	2,987 36
3368	Providence & New York Steamship Co., freight of cement, &c.,	-	-	-	26 91
3369	William H. Miller & Co., tools, repairing tools, &c.,	-	-	-	803 79
3370	Clyde Iron line of Steamships, freight of iron beams, (charged to Phenix Iron Co.,)	-	-	-	33 04
3371	George H. Burnham, commission and expenses selling house on Olney street,	-	-	-	21 48
3372	W. A. Burdick, Agent, on account of granite,	-	-	-	2,000 00
3373	Steamer Middlesex, freight of water pipes, (charged to War- ren Foundry and Machine Co.,)	-	-	-	510 96
3374	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
3375	Samuel M. Gray, " " " &c.,	-	-	-	335 00
3376	Charles H. Swan, " " " "	-	-	-	166 67
3377	Otis F. Clapp, " " " "	-	-	-	208 33
3378	Howard A. Carson, " " " "	-	-	-	208 33
3379	William T. Schneider, " " " "	-	-	-	100 00
3380	O. Frank Allen, " " " "	-	-	-	125 00
3381	John E. Bowen, " " " "	-	-	-	100 00
3382	Lucius J. Sampson, " " " "	-	-	-	83 33
3383	George H. Slade, " " " "	-	-	-	83 33
3384	Daniel D. Waterman, " " " "	-	-	-	66 67
3385	Charles F. Janes, " service pipe "	-	-	-	100 00
3386	William F. Janes, " asst. " " "	-	-	-	66 67
3387	Augustus F. Nagle, " mechanical " "	-	-	-	200 00
3388	George F. Munro, " student, engineering department,	-	-	-	41 67
3389	Henry N. Francis, " " " " "	-	-	-	41 67
3390	Leprielee Sweet, 2d, " " " " "	-	-	-	41 67
3391	Edmund B. Weston, " " " " "	-	-	-	41 67
3392	Mark Wilmarth, " " " " "	-	-	-	41 67
3393	Louis R. Daniels, " " &c., " " "	-	-	-	50 00
3394	Walter R. Jackson, " " " " "	-	-	-	33 33
3395	Edwin P. Dawley, " " " " "	-	-	-	33 33
3396	Charles M. Hunt, " " " " "	-	-	-	25 00
3397	Frank B. Ferris, salary as student, engineering department,	-	-	-	25 00
3398	Thomas L. Botts, " " " " "	-	-	-	25 00
3399	William H. Olmstead, " " " " "	-	-	-	25 00
3400	William M. Brown, Jr., " on trial, " " "	-	-	-	33 33
3401	Walter F. Slade, salary as service pipe clerk, engineering department,	-	-	-	83 33
3402	Joshua O. Drown, Jr., salary as clerk, engineering department,	-	-	-	75 00
3403	William H. Turner, " " " " "	-	-	-	100 00
3404	Daniel C. Stone, salary as temporary office assistant, engi- neering department,	-	-	-	46 00
	Amount carried forward,	-	-	-	\$165,696 27

	Amount brought forward,	-	-	-	\$165,696 27
3405	Louis W. Peck, salary as temporary office assistant, engineering department,	-	-	-	9 00
3406	Charles E. Shedd, salary as temporary assistant, engineering department,	-	-	-	26 00
3407	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
3408	Elbert Purdy, " inspector on pipe line,	-	-	-	104 00
3409	William H. Patterson, " " " "	-	-	-	104 00
3410	Foster S. Dennis, Jr., " " " "	-	-	-	104 00
3411	Samuel R. Eccleston, " " of pipes,	-	-	-	130 00
3412	S. Horace Wheeler, " " of service pipes,	-	-	-	125 00
3413	Henry M. Wilcox, " assistant inspector of service pipes,	-	-	-	85 00
3414	Frederic A. Arnold, salary as inspector of water fixtures,	-	-	-	83 33
3415	Henry G. Dennis, " superintendent of pipe yard,	-	-	-	125 00
3416	Richard M. Wood, " clerk at pipe yard,	-	-	-	66 67
3417	Jeptha Baker, " keeper of Sockanosset Reservoir,	-	-	-	80 00
3418	George F. Battey, " pumping engineer,	-	-	-	100 00
3419	John Hamilton, " fireman,	-	-	-	75 00
3420	George F. Barney, " " "	-	-	-	60 00
3421	Jesse E. Gray, " inspector at Hope Reservoir,	-	-	-	75 48
3422	George H. Whitaker, " " " " "	-	-	-	130 00
3423	George H. DeForrest, " time keeper, &c., at Hope Reservoir,	-	-	-	81 00
3424	William F. Tanner, salary as axeman,	-	-	-	56 40
3425	Thomas C. Gushee, " commissioner's clerk,	-	-	-	83 33
3426	Phillip S. Chase, " " "	-	-	-	125 00
3427	Clinton D. Sellew, " secretary of water commissioners,	-	-	-	200 00
3428	George F. Johnson, care of rooms,	-	-	-	55 00
3429	Charles H. Pierce, paid by him for labor at wharf,	-	-	-	765 25
3430	Charles H. Pierce, paid by him for labor at Hope Pumping Station,	-	-	-	42 75
3431	Charles H. Pierce, paid by him for sundries,	-	-	-	80 76
3432	Samuel M. Gray, horse hire, &c.,	-	-	-	112 25
3433	Wm. S. Briggs, horse hire, by engineers,	-	-	-	75 00
3434	Providence & Newport Lead Works, lead,	-	-	-	42 68
3435	B. F. Almy, cotton waste,	-	-	-	12 00
3436	M. D. Copeland, teaming,	-	-	-	234 00
3437	Phenix Iron Company, iron beams for roof of Hope Engine House coal vaults,	-	-	-	1,855 16
3438	John Mason, labor on models, patterns, &c.,	-	-	-	100 06
3439	Henry T. Root, dusters and brush,	-	-	-	8 75
3440	Union Water Meter Co., water meters,	-	-	-	1,936 92
3441	O. F. Garvey, wrenches,	-	-	-	12 00
3442	Boston Machine Co., post hydrants,	-	-	-	180 00
3443	Stone & Carpenter, architectural services,	-	-	-	500 00
3444	O. F. Gorham, wheelbarrow, &c.,	-	-	-	14 90
3445	Providence Steam Engine Co., labor of machinist,	-	-	-	5 00
3446	F. W. Lincoln, Jr. & Co., engineer's transit,	-	-	-	250 00
	Amount carried forward,	-	-	-	\$174,173 22

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	-	-	\$174,173 22
3447	R. S. Burrough & Co., oil,	-	-	-	34 20
3448	Kenneth McKay, labor on Hope Engine House, coal vaults,	-	-	-	15 20
3449	Corlies Steam Engine Co., services of engineer,	-	-	-	102 60
3450	F. O. Norton, cement,	-	-	-	175 00
3451	Walter Coleman & Sons, materials for derrick,	-	-	-	54 64
3452	Blackstone Iron Works, grate bars,	-	-	-	143 70
3453	Charles E. Hall, carting sand at Hope Engine House,	-	-	-	86 46
3454	Dexter Gorton & Co, gate boxes, &c.,	-	-	-	126 08
3455	Barker, Whitaker & Co., tools, rubber hose, metallic packing, &c.,	-	-	-	290 79
3456	W. A. Burdick, Agent, stone for fountain on Abbott Park, &c.,	-	-	-	396 25
3457	William Aplin, services as clerk, engineering department,	-	-	-	83 33
3458	Calvin C. Campbell, on account of granite,	-	-	-	5,484 00
3459	Thomas Phillips & Co., on account of service pipe,	-	-	-	1,800 00
3460	John W. Mathewson & Co., on account of granite,	-	-	-	2,150 00
3461	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	7,594 28
3462	Lobdell & Newmans, on account of construction of Hope Reservoir,	-	-	-	5,850 00
3463	G. B. & W. F. Inman, trenching and backfilling and laying water pipes,	-	-	-	5,100 00
3464	William A. Eddy, wood for Pettaconset pumping station,	-	-	-	85 00
3465	George W. Smith, cutting curbstones for hydrant boxes,	-	-	-	14 00
3466	Charles H. Pierce, paid by him for labor at Hope Pumping Station,	-	-	-	275 80
3467	Daniel F. Burlingame, repairs to tools, &c.,	-	-	-	157 91
3468	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	-	1,390 11
3469	Sloop Ida E. Vail, freight of bricks, (charged to S. F. & J. A. Gray,)	-	-	-	131 63
3470	G. B. & W. F. Inman, carting pipes,	-	-	-	476 18
3471	" " " setting fire hydrants, laying water pipes, &c.,	-	-	-	345 12
3472	John B. Jervis, professional services in relation to Hope Reservoir,	-	-	-	287 68
3473	James B. Francis, professional services in relation to Hope Reservoir,	-	-	-	119 40
3474	S. F. & J. A. Gray, on account of bricks,	-	-	-	2,500 00
3475	Builders' Iron Foundry, special castings and valve covers,	-	-	-	1,041 53
3476	Fuller Iron Works, " " " " boxes,	-	-	-	2,071 58
3477	Thomas Phillips & Co., on account for laying service pipes,	-	-	-	1,000 00
3478	Thomas Phillips & Co., on account for repairs and extra work,	-	-	-	600 00
3479	S. R. Eccleston, expenses to Phillipsburg and return, &c.,	-	-	-	23 12
3480	Henry D. Griswold, powder and fuse,	-	-	-	5 26
3481	Bugbee & Hall, stationery,	-	-	-	11 00
3482	Lobdell & Newmans, labor, &c., furnished by them,	-	-	-	283 58
3483	Warren Foundry and Machine Co., water pipes,	-	-	-	13,778 18
3484	Nathaniel Pearce & Son, iron wedges, &c.,	-	-	-	57 40
3485	William M. Holloway, labor at Pettaconset,	-	-	-	77 15
3486	W. P. Knickerbocker & Co., rope, &c.,	-	-	-	75 37
	Amount carried forward,	-	-	-	\$228,416 74

	Amount brought forward,	-	-	-	\$228,416 74
3487	John A. Moore, carting wood, &c.,	-	-	-	21 16
3488	William Elsbree, repairing streets, (charged to Thomas Phillips & Co.,)	-	-	-	91 57
3489	Charles H. Pierce, paid by him for labor at Hope Engine House,	-	-	-	155 80
3490	Thomas Phillips & Co., laying service pipes,	-	-	-	502 24
3491	Rhode Island Concrete Co., on account for concreting around hydrants,	-	-	-	200 00
3492	J. B. Angell, repairing, tools, &c.,	-	-	-	9 06
3493	Samuel M. Gray, on account for paying masons, laborers, &c., at Pettaconset,	-	-	-	2,000 00
3494	J. B. & J. M. Cornell, iron work for Hope Engine House, roofs, &c.,	-	-	-	5,400 18
3495	James Carroll, carting sand and gravel, &c.,	-	-	-	113 13
3496	J. Herbert Shedd, salary as chief engineer,	-	-	-	2,000 00
3497	Charles H. Pierce, " assistant engineer,	-	-	-	250 00
3498	Samuel M. Gray, " " " &c.,	-	-	-	335 00
3499	Charles H. Swan, " " " "	-	-	-	166 67
3500	Otis F. Clapp, " " " "	-	-	-	208 33
3501	Howard A. Carson, " " " "	-	-	-	208 33
3502	William T. Schneider, " " " "	-	-	-	100 00
3503	C. Frank Allen, " " " "	-	-	-	125 00
3504	John E. Bowen, " " " "	-	-	-	100 00
3505	Lucius J. Sampson, " " " "	-	-	-	83 33
3506	George H. Slade, " " " "	-	-	-	83 33
3507	Daniel D. Waterman, " " " "	-	-	-	66 67
3508	Charles F. Janes, " service pipe engineer,	-	-	-	100 00
3509	William F. Janes, " asst. " " "	-	-	-	66 67
3510	Augustus F. Nagle, " mechanical " "	-	-	-	200 00
3511	George F. Munro, " as student, engineering department,	-	-	-	41 67
3512	Henry N. Francis, " " " "	-	-	-	41 67
3513	Leprilete Sweet, 2d, " " " "	-	-	-	41 67
3514	Edmund B. Weston, " " " "	-	-	-	41 67
3515	Louis R. Daniels, " " &c., " "	-	-	-	50 00
3516	Walter R. Jackson, salary as student, engineering department,	-	-	-	33 33
3517	Edwin P. Dawley, salary as student, engineering department,	-	-	-	33 33
3518	Charles M. Hunt, " " " "	-	-	-	25 00
3519	Frank B. Ferris, " " " "	-	-	-	25 00
3520	Thomas L. Botts, " " " "	-	-	-	25 00
3521	William H. Olmstead, " " &c., " "	-	-	-	29 95
3522	William M. Brown, Jr., " " " "	-	-	-	33 33
3523	Joshua C. Drown, Jr., " Clerk, " "	-	-	-	75 00
3524	Walter F. Slade, " service pipe clerk, engineering department,	-	-	-	83 33
3525	William H. Turner, salary as clerk, engineering department,	-	-	-	100 00
3526	William Alpin, " " &c., " "	-	-	-	83 33
3527	Daniel C. Stone, " temporary office assistant, engineering department,	-	-	-	19 40
	Amount carried forward,	-	-	-	\$241,785 89

	Amount brought forward,	-	-	-	\$241,735 89
3528	Louis W. Peck, salary as temporary office assistant, engineering department,	-	-	-	43 00
3529	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
3530	Elbert Purdy, " inspector on pipe line,	-	-	-	104 00
3531	William H. Patterson, " " " "	-	-	-	104 00
3532	Foster S. Dennis, Jr., " " " "	-	-	-	104 00
3533	Samuel R. Eccleston, " " " "	-	-	-	104 00
3534	S. Horace Wheeler, " " of service pipes,	-	-	-	125 00
3535	Henry M. Wilcox, " assistant inspector of service pipes,	-	-	-	85 00
3536	Frederic A. Arnold, " inspector of water fixtures,	-	-	-	83 33
3537	Henry G. Dennis, " superintendent of pipe yard,	-	-	-	125 00
3538	Richard M. Wood, " clerk at pipe yard,	-	-	-	66 67
3539	Jephtha Baker, " keeper of Sockanosset Reservoir,	-	-	-	77 50
3540	George F. Battey, " pumping engineer,	-	-	-	100 00
3541	John Hamilton, " fireman,	-	-	-	80 00
3542	George F. Barney, " " "	-	-	-	60 00
3543	George H. Whitaker, " inspector at Hope Reservoir,	-	-	-	130 00
3544	Burrows Chase, " " " "	-	-	-	145 00
3545	Alexis O. Miller, " " " "	-	-	-	31 50
3546	George H. DeForrest, " time keeper at Hope Reservoir,	-	-	-	81 00
3547	William F. Tanner, " axeman,	-	-	-	52 00
3548	Leonard N. Austin, Jr., " commissioners' clerk,	-	-	-	35 56
3549	Thomas C. Gushee, " " " "	-	-	-	83 33
3550	Phillip S. Chase, " " " "	-	-	-	125 00
3551	Clinton D. Sellew, " secretary of water commissioners,	-	-	-	200 00
3552	Joseph J. Cooke, " water commissioner,	-	-	-	500 00
3553	Charles E. Carpenter, " " " "	-	-	-	500 00
3554	William Corliss, " " " "	-	-	-	500 00
3555	George F. Johnson, care of rooms,	-	-	-	56 20
3556	Charles H. Pierce, paid by him for labor at wharf,	-	-	-	660 25
3557	" " " " " " Hope Engine House,	-	-	-	177 60
3558	Charles H. Pierce, paid by him for sundries,	-	-	-	88 03
3559	Samuel M. Gray, horse hire, &c.,	-	-	-	120 09
3560	William S. Briggs, horse hire by engineers,	-	-	-	141 00
3561	Tuttle & Hobbs, horse keeping, &c., engineering department,	-	-	-	172 64
3562	M. D. Copeland, teaming,	-	-	-	238 50
3563	Stephen Knobb, carting stone, &c.,	-	-	-	67 25
3564	Knowles, Anthony & Danielson, advertising,	-	-	-	8 44
3565	George F. Shedd, plumb bobs,	-	-	-	10 50
3566	Darling, Brown & Sharpe, repairing calipers,	-	-	-	11 60
3567	G. W. Edmunds, repairing wagon,	-	-	-	12 27

 \$247,361 83

RECEIVED FROM JULY 1, 1873, TO SEPTEMBER 30, 1873, INCLUSIVE, AND PAID TO THE CITY TREASURER.

1873		
July	1. Of Walter Richmond, for labor and materials,	\$13 58
	5. Of John Godfrey, for three months rent of farm in Warwick, purchased of Miss Patience W. Chace, to October 8, 1873,	43 75
	7. Of Stafford & Co., for six months rent of Pawtuxet Mill. to July 1, 1873,	400 00
	12. Of Gideon G. Hicks, for labor and materials,	126 85
	12. Of Peleg P. Cranston, for three months rent of "Randall estate," so called in Pawtuxet, to July 1, 1873,	50 00
	15. Of Atlantic DeLaine Co., for labor and materials,	5,351 08
	16. Of Samuel M. Gray, for sundries,	88 55
	16. Of City of Providence, for sewer expenses,	566 50
	21. Of Fuller Iron Works, for old iron,	248 15
	22. Of American Screw Co., for labor and materials,	665 78
	23. Of Franklin Foundry and Machine Co., for labor and materials,	374 19
	23. Of Providence Tool Co., for labor and materials,	121 38
	23. Of George H. Corliss, for materials,	18 99
	26. Of James Smith, " " "	21 95
August	4. Of Providence Gas Co., for building on their wharf,	300 00
	4. Of Henry G. Dennis, for wharfage collected by him,	5 65
	7. Of Samuel M. Gray, for sundries,	47 10
	9. Of City of Providence, for sewer expenses,	4,093 00
	12. Of Samuel R. Eccleston, for inspection of pipes,	15 00
	25. Of Day & Chapin, for labor and materials,	261 73
September	26. Of City of Providence, for sewer expenses,	340 57
	3. Of Phineas Conley, for grass and pasturage on farm purchased of S. B. Gardiner,	50 00
	5. Of F. H. & O. K. Richmond, for labor and materials,	52 54
	9. Of People's Steamboat Co., " " "	225 14
	10. Of William A. Harris, " " "	158 40
	15. Of Samuel M. Gray, for sundries,	4 50
	16. Of William M. Holloway, for three months rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to December 1, 1873,	56 25
	25. Of Fuller Iron Works, for old iron,	542 32
	25. " " " labor and materials,	142 05
	26. Of Benjamin F. Almy, " " " "	265 03
	27. Of Peleg P. Cranston, for three months rent of "Randall estate," so called, in Pawtuxet, to October 1, 1873,	50 00
	30. Of Kenneth McKay, for error in payment of bill,	15 20
	30. For water during the present quarter,	15,205 97
	30. For meters " " " "	6,369 30
	30. For penalties " " " "	10 00
		<hr/>
		\$36,301 50

TRIAL BALANCE OF LEDGER, SEPTEMBER 30, 1875.

	Dr.	
Hope Reservoir for land,	.	\$124,122 80
" " sundries,	.	322 86
" " labor,	.	279 88
" " gate chambers,	.	171 74
" " drain,	.	178 53
" " inspection,	.	1,346 98
" Engine House,	.	53,872 66
Sockanosset Reservoir for construction,	.	177,870 72
" " sundries,	.	2,119 06
" " land,	.	16,074 35
" " watch,	.	1,594 35
" " gate houses,	.	17,527 06
" " drain,	.	1,750 93
" " inspection,	.	6,819 18
" " extra work and materials,	.	189 70
" " gate chambers,	.	19,399 27
Line of leading mains for labor and materials,	.	19,308 52
" " extra trenching, etc.,	.	305 95
" " land and damages,	.	1,635 00
Force main line for land and damages,	.	2,006 25
" " labor and materials,	.	5,099 28
" " extra trenching, etc.,	.	332 56
Office furniture, stoves, gas fixtures, etc.,	.	1,212 31
Rent of offices,	.	2,950 00
Books, stationery, etc.,	.	744 14
Fuel and lights,	.	222 26
Horse-hire by commissioners,	.	19 00
Janitor of rooms,	.	507 00
Traveling expenses of commissioners,	.	122 62
Clerks' salaries,	.	4,984 51
Commissioners' salaries,	.	24,208 79
Secretary's salary,	.	2,766 71
Sundries,	.	248 54
Printing,	.	1 711 25
Advertising,	.	1,545 50
Fences,	.	2,050 88
Stop valves,	.	47,190 70
Store house and work shop,	.	1,307 38
Tools,	.	7,441 33
Labor on pipes,	.	13,637 76
Rent of wharves and pipe yards,	.	3,952 39
Cast iron water pipes,	.	1,035,635 99
Linking curved pipes,	.	232 75
Special castings,	.	77,140 99
Lumber,	.	1,455 71
Fire hydrants,	.	68,755 66
Sockanosset hill cross road,	.	3,855 38
Pettaconset and Sockanosset telegraph line,	.	1,724 28
Dwelling houses at Pettaconset,	.	4,251 33
Culverts and bridge on line of force mains,	.	6,775 33
Amount carried forward,	.	\$1,760,617 62

Amount brought forward, . . .	\$1,760,617 63
Culverts at Pettaconset, . . .	3,537 92
Real estate in Warwick, . . .	13,118 04
Water privileges, mill and other real estate in Pawtuxet,	50,231 96
Pochasset bridge, . . .	5,559 83
Wharf salaries, . . .	5,774 43
Temporary engine house at Pettaconset, . . .	8,671 46
Engine house at Pettaconset, . . .	33,290 41
Natural Filter Basin, . . .	32,630 65
Roads, slopes, etc., at Pettaconset, . . .	10,565 70
Removing loam, . . .	469 25
Iron screw piles, . . .	3,766 46
Hydrant bolts, . . .	1,330 16
Pipe bolts, . . .	1,406 68
Photographs, . . .	149 00
Hydrant heads, . . .	6,603 84
Taps and stops, . . .	13,547 06
Valve covers, . . .	7,013 26
Service pipe, . . .	25,178 49
Hydrant boxes, . . .	18,861 10
Setting fire hydrants, . . .	8,635 69
Valve boxes, . . .	24,006 66
Check valves, . . .	1,412 48
Air cocks, boxes, covers and setting, . . .	500 05
Night and Sunday Watch at engine house, . . .	1,154 00
Pettaconset pumping station for land, . . .	1,621 24
" " " " sundries, . . .	2,563 17
" " " " engineer, . . .	2,898 28
" " " " coal and wood, . . .	13,766 13
" " " " labor on fuel, . . .	984 01
" " " " firemen, . . .	2,664 40
Setting blow-offs, . . .	265 66
Ascertaining and removing nuisances on Pawtuxet river,	479 46
S. F. & J. A. Gray, . . .	4,949 13
Rhode Island Concrete Co., . . .	150 00
Freeborn Johnson & Co., . . .	2,500 00
Taunton Brick Co., . . .	8,444 19
W. A. Burdick, Agent, . . .	8,081 23
Fales, Jenks & Sons, . . .	4,250 00
Phoenix Iron Co., . . .	2 96
G. B. & W. F. Inman, . . .	35,300 00
Loddell & Newmans, . . .	17,925 00
John W. Mathewson & Co., . . .	2,150 00
Granite Railway Co., . . .	13,156 23
S. A. Hammond, . . .	15 00
Town of Cranston, . . .	5,000 00
A. & W. Sprague Manufacturing Co., . . .	2,500 00
Thomas Phillips & Co., . . .	8,492 07
City of Providence, Fountain, Abbott Park, . . .	703 07
Read & Richards, . . .	8,032 40
Calvin C. Campbell, . . .	17,310 80
Nelson Titus, . . .	81 96
Providence Tool Co., . . .	241 34
Samuel M. Gray, . . .	2,000 00
City Treasurer, . . .	33,713 34
" " for water payments, . . .	120,938 37
Amount carried forward, . . .	\$2,414,833 44

REPORT OF THE WATER COMMISSIONERS.

33

Amount brought forward,	\$2,414,893 44
Testing pipe iron,	443 50
Iron drain pipes and gate,	234 31
Carting pipes,	23,416 59
Counsel fees,	4,200 00
Inspection of pipes,	7,636 76
Inspection of pipe laying,	19,979 55
Inspection of water fixtures,	1,563 08
Testing bolts and composition castings,	34 25
Laying water pipes,	263,101 23
" service pipes,	18,339 63
" suction pipe, etc.,	85 00
Drainage pump and engine,	3,066 49
Hydrants for street sprinklers,	1,653 28
Boston hydrants,	7 46
Temporary boarding house at Pettaconset,	1,137 43
Public drinking fountains and troughs,	55 60
Water meters,	30,310 80
Worthington pumping engine,	37,346 36
	<hr/>
	\$2,637,293 65

ENGINEERING DEPARTMENT—

For Instruments,	2,603 17
Tools,	653 12
Furniture, stoves, gas fixtures, etc.,	2,449 68
Books, stationery, etc.,	2,272 52
Draughting,	3,523 52
Labor,	4,362 83
Horse and wagon account,	1,307 73
Horse keeping, shoeing, etc.,	1,323 95
Horse hire,	2,838 90
Rent of offices,	5,390 61
Fuel and lights,	530 63
Janitor of rooms,	1,001 38
Experimental filter,	91 08
Sundries,	2,115 71
Test wells,	1,579 40
Consultations,	897 08
Office building at Pettaconset,	553 21
" " " Sockanosset reservoir,	563 22
Stakes and strips,	693 62
Printing,	265 83
Maps,	86 67
Service pipe experiments,	295 76
Temporary assistance,	6,795 72
Salaries,	103,052 02
	<hr/>
	145,127 67
Amount carried forward,	<hr/>
	\$2,982,421 33

Amount brought forward,		\$2,982,421 32
Cm.		
Hope reservoir for land, (rents received and buildings, etc., sold,)	5,888 28	
Sockanosset reservoir for land, (rents received and wood, etc., sold,)	1,494 49	
Real estate in Warwick, (rents received,)	881 25	
Pettiaconset pumping station for land, (rents received,)	422 39	
Water privileges, mill and other real estate in Pawtuxet, (rents received,)	2,989 53	
J. B. & J. M. Cornell,	1,000 00	
Warren Foundry and Machine Co.,	15,175 00	
Interest,	54 66	
Water meters,	30,991 40	
Penalties,	74 00	
Water,	120,696 37	
Approved bills,	2,802,876 95	\$2,982,421 32

1873-74.

CITY DOCUMENT.

No. 41.

SEVENTEENTH QUARTERLY REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

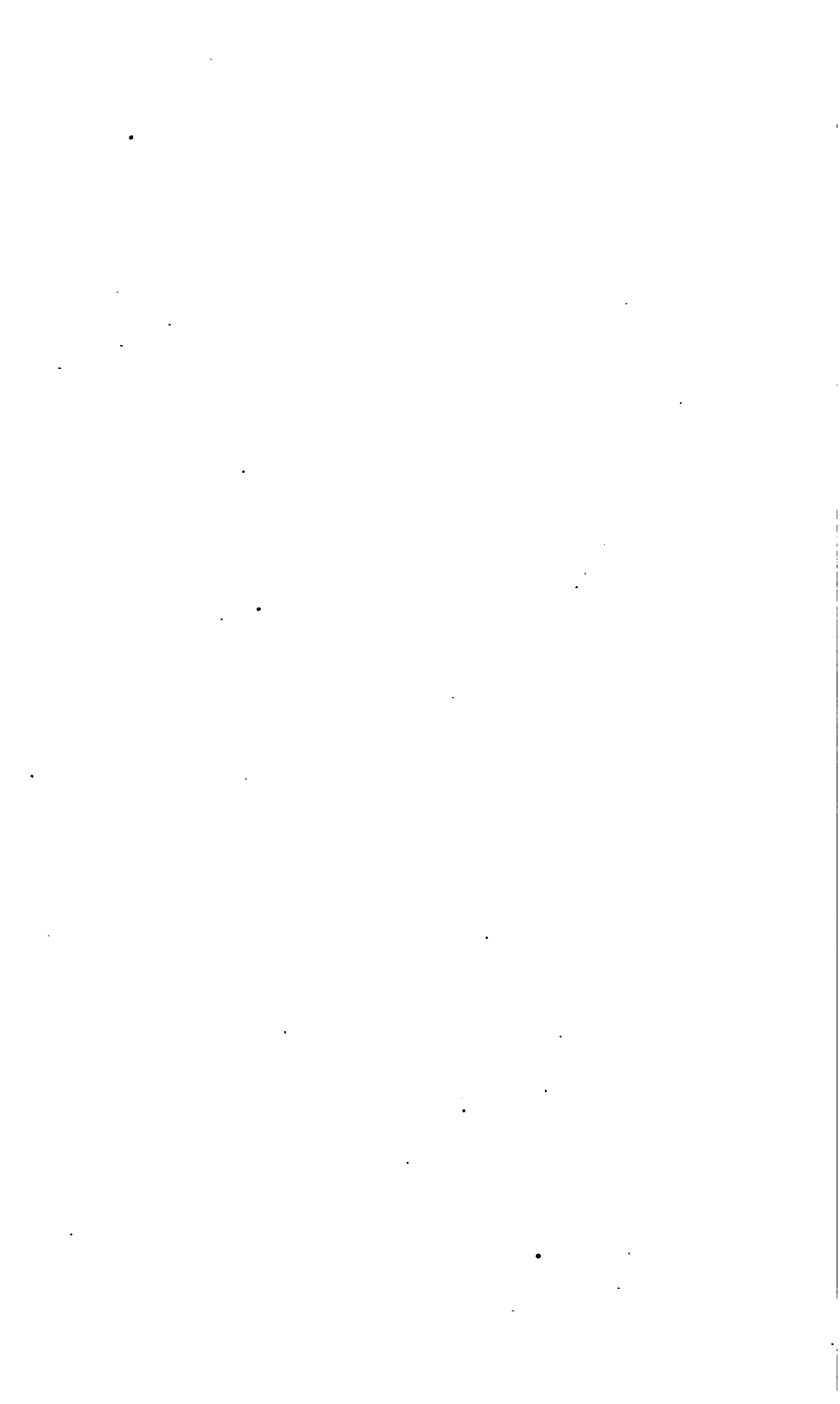
JANUARY 1, 1874.



PROVIDENCE:

HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.

1874.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE WATER COMMISSIONERS.

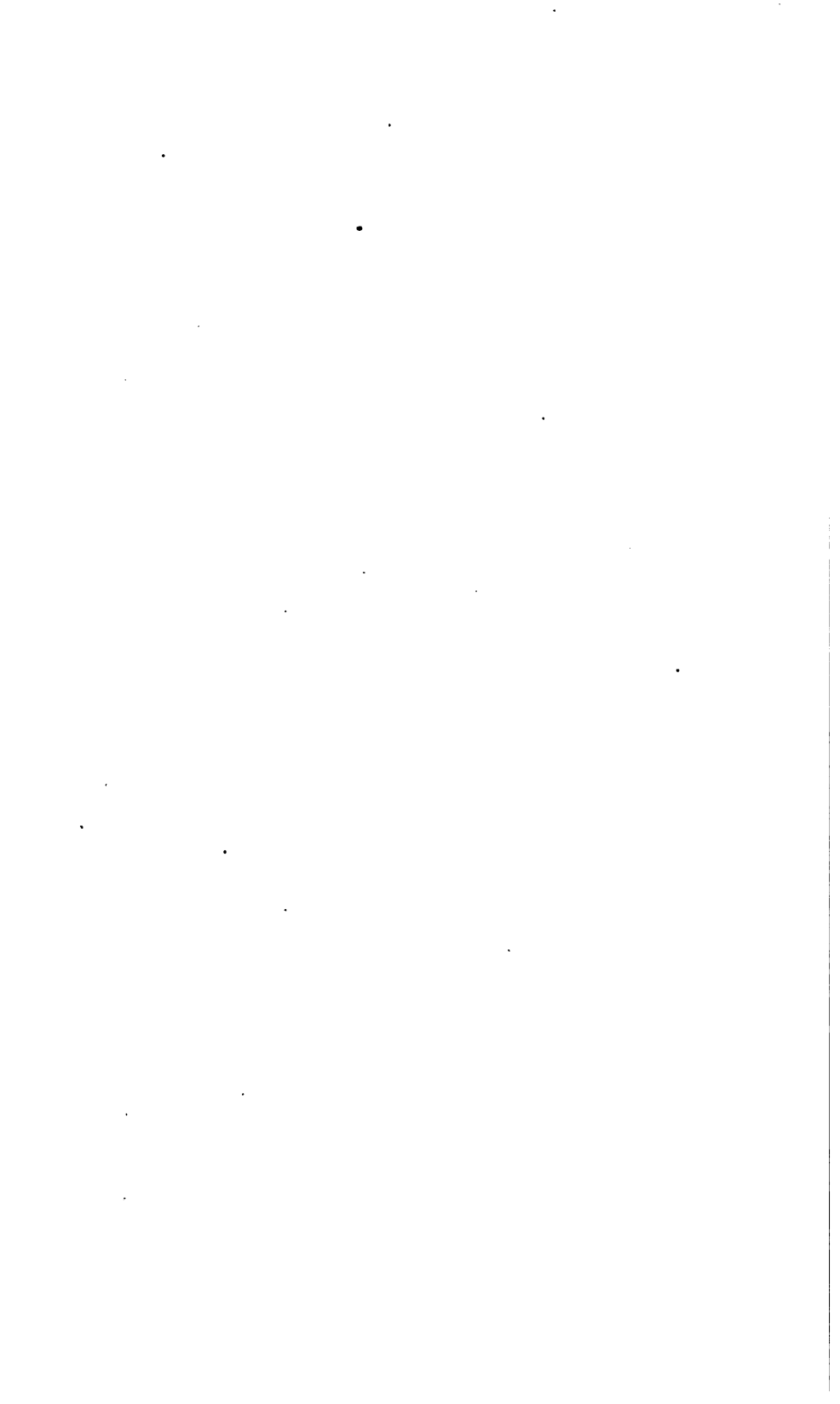
CLINTON D. SELLEW.

Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main street.



REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, January 1st, 1874. }

TO THE HONORABLE THE CITY COUNCIL :

The undersigned, Water Commissioners, respectfully present their Seventeenth Quarterly Report :

George F. Munro, who had been three years a student in the engineering department, has been appointed an Assistant Engineer, with a salary of one thousand dollars per annum, dating from October 17, 1873.

On the third day of November, an advertisement was published, inviting proposals for the construction of a Cornish engine, and the erection of the same at Pettaconset. The proposals which were received were opened on the ninth day of December, and were all rejected. The prices named were unsatisfactory.

On the twelfth day of December, an advertisement was published, inviting proposals for furnishing 875 tons of 2,240 pounds, 36 inch, cast iron pipes. The proposals which were received were opened on the nineteenth day of the same month, and were all rejected, the prices named being unsatisfactory. These pipes are wanted for a second line of force-mains.

The engine erected at Hope Pumping Station, by George H. Corliss, under the contract executed with him, February 8, 1872, commenced pumping water into the High Service on the fourth day of October, and has since pumped continuously,

excepting on three occasions at night, when the engine was stopped for a few hours for alterations or repairs.

The parties to the contract having been unable to agree upon three persons to compose the committee to make the test therein required, the Commissioners chose Frederic Graff, of Philadelphia, formerly Chief Engineer of the Philadelphia Water Works, as one member of said committee, and Mr. Corliss chose George Huntington Reynolds, of New York, as another member. The two members so chosen have appointed Erastus W. Smith, of New York, as the third member, thus completing the committee. The committee have designated the fifth day of January, instant, for the commencement of the trial.

The engine at Pettaconset was stopped for repairs November 19th, and re-commenced pumping December 10th. During this time, the reservoir, which was full at the beginning, was drawn upon to the extent of about three quarters of the supply in store. After filling the reservoir, the engine was again stopped, 26th ultimo, for the completion of repairs. It is expected that in two days it will be again in motion. Water in the reservoir at 7 o'clock this morning was 178.45 feet above high tide, the reservoir being 2.05 feet less than full.

The average daily consumption of water during the last quarter, has been about 1,713,400 gallons.

Work on the engine house at Pettaconset, suspended September 24th, was resumed November 1st.

Fair progress has been made in the construction of Hope Reservoir.

Three iron drinking fountains, for man and beast, have been set, viz: one in Wickenden street; one in India street, and one in Dexter street.

The following communication was received, 30th December, ultimo.

"COUNCIL CLERK'S OFFICE,
CRANSTON, Dec. 29th, 1873. }

TO JOSEPH J. COOKE, ESQ., PRESIDENT OF BOARD OF
WATER COMMISSIONERS :

DEAR SIR:—I am instructed by the Town Council of the town of Cranston, to inform the Water Commissioners of the City of Providence, that whenever the City of Providence shall convey to the town of Cranston, (for highway purposes,) the land over which the highway, called Reservoir avenue, passes, being the same conveyed to said city by the heirs of Joseph Harris, deceased, the said clerk is ordered and directed to draw an order on the town treasurer in favor of the City of Providence, for the sum of five thousand (\$5,000) dollars.

Respectfully Yours,

J. M. WHEELER,

Council Clerk."

The following resolution, passed by the Town Council, September 24, 1870; together with a resolution passed October 12, 1870, releasing the city from its obligation to keep the new portion of Sockanosset hill cross-road in repair; constitute, in effect, the agreement under which the Commissioners acted in grading the avenue in the town of Cranston in which the water mains, leading from Sockanosset Reservoir, have been laid :

"RESOLVED, That, if the Water Commissioners of the city of Providence will grade the road, formerly the Providence and Pawcatuck Turnpike, fifty feet in width on the tread from the city line to the point where the line of their leading mains leaves the said road, and from thence make a road of the same width to the Sockanosset Hill Cross Road, building an iron bridge forty feet in width over the Pocasset river, this Council will provide for any land damages which may ensue by reason of the grading and laying out of said road as far south as the southerly line of A. & W. Sprague's land and no farther, and will establish the new road as a public highway when com-

pleted, and will also pay to said Commissioners the sum of five thousand (\$5,000) dollars, provided an additional sum of twenty-five hundred (\$2,500) dollars be contributed by Col. Amasa Sprague, the same to be paid to said Commissioners toward grading said road."

Appended to a certified copy of the above resolution, is the following:

"We hereby agree to pay to the Water Commissioners of the City of Providence, the sum of twenty-five hundred (\$2,500) dollars, to aid in grading and improving the road, formerly the Providence and Pawcatuck Turnpike, when said road is completed.

A. & W. SPRAGUE MFG. CO.,
By AMASA SPRAGUE, TR."

The deed from the heirs of Joseph Harris, to the city, of the strip of land referred to, conveys it "subject to use, as a public highway, of the town of Cranston."

The Commissioners recommend that the City Treasurer be instructed to give to the town of Cranston such a deed of the said strip as may be approved by the City Solicitor.

The A. & W. Sprague Mfg. Co., has not paid the aforesaid sum of twenty-five hundred dollars.

The "Schedule of Water Rates" has been amended in regard to "Fountains" and "Garden Hydrants and Street and Window Washers;" while no change has been made in the rate, the prices for different sizes of fountain jets are shown more plainly. The right to use "garden hydrants and street and window washers" is limited to one hour per day, unless an additional sum is paid for longer use, while the restriction in regard to the portion of the day in which water may be used for sprinkling streets, is removed. The statement is made that "when water passes through a meter, it may be used for any and all purposes."

Plumbers' licenses have been issued as follows :

Gorham Manufacturing Company, Rollin M. Harris,
Maturin R. Capron.

The number of Plumbers' licenses issued to date is forty.

The following statement shows the length of pipes laid during the last quarter; the size of the pipes; where laid, and the totals since the commencement of the work:

30 INCH.

In Thayer street, and Hope Reservoir land,	2,281 feet.
Including 3 cut pipes, 1 branch, 2 curved pipes, 1 gate and 1 sleeve,	
Previously,	40,842 feet.
Total,	<u>43,123 feet.</u>

24 INCH.

In Olney and Thayer streets,	1,619 feet.
Including 5 cut pipes, 2 branches, 6 curved pipes, 2 gates, and 1 sleeve.	
Previously,	18,815 feet.
Total,	<u>20,434 feet.</u>

16 INCH.

In Orms and Smith streets, (North Providence,)	67 feet.
Including 1 cut pipe, 4 branches and curved pipes,	
Previously,	15,571 feet.
Total,	<u>15,638 feet.</u>

12 INCH.

In Messer and Thayer streets,	347 feet.
Including 4 cut pipes, 3 branches, 1 gate, and 1 sleeve,	
Previously,	24,027 feet.
Total,	<u>24,374 feet.</u>

10 INCH.

In Gaspee street,	787 feet
Including 5 cut pipes, 4 branches, 1 curved pipe, 1 bevel hub and 1 gate,	
Previously,	7,672 feet
Total,	<u>8,459 feet</u>

8 INCH.

In Martin street, and in Douglas avenue, and Martin street (North Providence,) . . .	1,559 feet
Including 10 cut pipes, 7 branches, 4 curved pipes and 1 gate.	
Previously,	56,824 feet
Total,	<u>58,383 feet</u>

6 INCH.

In Andrew, Anthony, Bond, Cushing, Dorrance, Gilmore, Grove, Hudson, Laura, Public, Railroad Crossing and Ring streets; in Orms and Smith streets, (North Providence;) for Builders' Iron Foundry, from Coddling street, and for Providence Gas Company, from Langley street, . . .	10,607 feet.
Including 55 cut pipes, 25 branches, 10 curved pipes, 2 bevel hubs, 19 gates, and 1 sleeve.	
Previously,	302,353 feet
Total,	<u>312,960 feet</u>
Total of all sizes during the last quarter, or 3.27 miles,	17,267 feet
Previously, including 20 and 36 inch, of which none have been laid during the last quarter,	477,670 feet
Total,	<u>494,937 feet</u> or 93.73 miles.

Thirty-nine fire hydrants have been set since the date of the last quarterly report, one in each of the following locations, those marked * being in North Providence:

Amos	street,	south-west corner of North Main street.
Anthony	"	east side, half-way between Atwell's avenue and Federal street.
Brownell	"	south side, about half-way between Park and Holden streets.
Bourn	"	west side, about half-way between Atwell's avenue and Broadway.
Bucklin	"	east side, about half-way between Carter and Hawthorn streets.
C	"	north-east corner of Booth street.
Carter	"	" " Vineyard street.
Cherry	"	north-west " Mulberry street.
Cushing	"	north side, about half-way between Prospect and Congdon streets.
*Douglas	avenue,	opposite south line of Crawford street.
Earl	street,	north-east corner of Bucklin street.
Friend	"	north-west corner of North Main street.
Gaspee	"	east side, about 260 feet south of Smith st.
"	"	south-east side, about 160 feet south of angle at Railroad Crossing street.
Greenwich	"	south-west corner of Hawthorn street.
"	"	" " Redwing street.
Gilmore	"	north side, about 210 feet east of Lester st.
Grove	"	south-west corner of Andrew street.
Hudson	"	south side, about 150 feet east of Sycamore street.
Laura	"	north-east corner of Niagara street.
"	"	" " Hamilton street.
Martin	"	north side, opposite east line of Clayton st.
* "	"	north-east corner of Evans street.
* "	"	" " first alley east of Douglas avenue.
Messer	"	south-east corner of Hudson street.

*Orms	street,	south-west corner of Winthrop street.
Plane	"	west side, about 420 feet north of Lockwood street.
Public	"	south side, about 240 feet east of Austin st.
"	"	" " 125 " " Plane st.
"	"	" " 210 " west of Eddy st.
"	"	south-east corner of Burnside street.
"	"	south side, about 200 feet west of Prairie avenue.
"	"	south side, about 500 feet east of Broad st.
Ring	"	north side, about 180 feet east of Tobey st.
*Smith	"	south corner of Orms street.
* "	"	south side, about 120 feet east of Franklin street.
* "	"	south-west corner of Martin street.
Weeden	"	west side, about half way between Atwell's avenue and Federal street.
Weybosset	"	east side, 30 feet north of Hay street.

The total number of fire hydrants is now seven hundred and twenty-eight.

Thirty-two Ball & Fitts' Water Meters, made by the Union Water Meter Co., and ninety two Worthington Water Meters, have been put in at the expense of water takers, since the date of the last report. One Ball & Fitts' two-inch Water Meter was set October 13th, and one Worthington four-inch Water Meter was set October 9th, at the expense of the city.

There are eleven hundred and seventy-five water meters now in use, viz:

906 five-eighths inch.

156 three quarters inch.

64 one inch.

40 one and one-half inch.

7 two inch.

2 four inch.

1,175

The total number of applications for a supply of water is five thousand two hundred and thirty-one.

The number of service stops opened during the last quarter is two hundred and eighty-four; four of which are for fire purposes only.

The total number of service stops opened to date is thirty-five hundred and fifteen.

Three stops have been closed during the last quarter for non-payment of bills, all of which have been re-opened on payment of bills, and penalty in each case of two dollars. One stop was closed to enable the owner to set a meter, there being no stop-cock on the premises, and was re-opened on payment of two dollars. Five stops, closed for non-payment, remain unopened. Since the commencement, five service pipes have been taken up, their being no longer use for them; the use of five others has been discontinued, but remain in view of possible contingencies.

Water is now supplied for the following uses :

6 bakeries; 30 banks; 49 bar-rooms; 1 bath-house; 1 bath house—Turkish; 87 boarding-houses; 6 bottling establishments; 41 building purposes; 1 car-house; 2 carriage depositories; 1 Christian Union; 15 churches; 1 city barn; 1 city bridge, Point street; 1 city building; 5 city drinking fountains; 14 city drinking troughs; 728 city fire hydrants; 9 city fire steamer stations; 2 city hose houses; 6 club rooms; 12 coal yards; 1 colored shelter; 1 conservatory of music; 2 convents; 1 court house; 1 decorator, 1 Dexter Asylum; 1,541 dwellings of one family; 1,085 dwellings of two families; 95 dwellings of three families; 107 dwellings of four families; 15 dwellings of five families; 21 dwellings of six families; 4 dwellings of seven families; 4 dwellings of eight families; 2 dye houses; 3 elevators; 2 engravers; 1 express carriage house; 38 fire supplies—private; 41 fountains—private; 1 fountain—public; 1 furrier; 2,023 garden and street

hydrants; 3 gas holders; 5 gold and silver platers; 5 gold and silver refiners; 2 grain elevators; 23 green houses; 9 halls; 1 hall of Latter day Saints; 1 Home for Aged Women; 1 hospital; 15 hotels; 1 infirmary; 3 lodging-houses; 2 lumber dealers. *Manufacturing Establishments.*—2 belt and picker; 3 blank book; 2 bleacheries; 1 bologna sausage; 1 box; 1 braiding works; 2 brass foundries; 1 brewery; 1 brush; 1 butt; 6 carriage; 2 cement pipe; 1 chain; 5 cigar; 1 cigar box; 4 cloak and dress; 1 coffin; 4 confectionery; 1 corset; 3 colorers of jewelery; 7 cotton; 1 crocus; 1 distillery; 3 die-sinkers; 1 dye wood; 1 emery wheel; 1 enameler of jewelry; 1 eyelet; 2 file; 6 furniture; 1 gas; 1 gas burners; 2 gas fixtures; 1 geer; 1 hat; 1 harness; 1 horse shoe; 1 hulled corn; 2 ice cream and soda water; 1 ink; 1 iron company; 1 iron fence; 8 iron foundries; 1 Japan switch; 1 jewelers' cards; 73 jewelry; 4 lapidaries; 17 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 2 paper box; 1 paper collar; 2 paper cop tube; 1 pattern; 3 patent medicine; 1 picture frame; 2 pump; 1 reed; 1 rubber tubing; 4 sash and blinds; 1 screw; 1 sheet iron; 2 shirt; 2 silver ware; 5 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engine; 1 stencil plate; 1 stove; 2 tanners; 1 tin; 4 tool; 2 top-roll; 5 woolen goods; 1 yeast. *Markets.*—29 fish; 69 meat. *Mills.*—1 drug and grain; 2 flour and grain; 5 marble works; 1 paint; 9 planing. 1 music hall; 2 odd fellows' halls; 2 opera houses; 2 orphan asylums; 5 organs; 5 oyster houses; 425 offices; 5 photographers; 5 plaster and stucco workers; 4 plumbers; 5 police stations; 11 printing establishments; 9 provision curers and packers; 7 railroads; 1 reading room; 33 restaurants; 1 roofer. *Saloons.*—4 billiard; 3 bowling; 5 ice cream; 11 lager beer; 8 oyster. *Schools.*—1 boarding; 9 private; 27 public; 1 reform. *Shops.*—21 barber; 6 blacksmith; 8 carpenter; 3 cooper; 1 junk; 6 paint; 1 painter; 4 shoemaker; 20 tailors; 5 tinman. *Stables.*—6 hacks; 37 livery; 156 private; 2 sale; 49 work. 12 steamboats; 13 steamships; 5 steam and gas pipe fitters. *Stores.*—1 agricultural implements;

29 apothecary ; 1 auction ; 4 book ; 22 boot and shoe ; 1 carpet ; 1 carriage trimmings ; 10 cigar ; 16 clothing ; 7 confectionery ; 2 drug ; 20 dry goods ; 73 fancy goods ; 7 flour and grain ; 11 fruit ; 8 furniture ; 6 gents' furnishing goods ; 77 grocery, retail ; 14 grocery, wholesale ; 6 hardware ; 2 hide and leather ; 2 hoop skirt ; 10 house furnishing goods ; 2 house paper ; 3 iron and steel ; 9 jewelry ; 9 liquor ; 1 lime and brick ; 2 manufacturers' supplies ; 13 millinery ; 7 newspaper ; 3 oil and paint ; 2 paper and paper stock ; 6 produce, wholesale ; 3 sewing machines ; 3 stationery ; 2 stove ; 3 tea ; 2 trunk ; 1 umbrella ; 1 wool ; 2 woolen goods ; 15 not classed. 1 store house ; 2 undertakers ; 1 United States Custom house building ; 2 upholsterers ; 2 water boats ; 1 wheelwright ; 1 wood turner ; 3 wood yards

The amount of expenditures during the last quarter, is	\$285,183.79
The total amount of expenditures, is	3,088,060.74
The total amount of appropriations, is	3,200,000.00
The unexpended balance, is	111,939.26
The amount received during the last quarter, all of which has been paid to the city treasurer, is	
For water supplies,	\$17,691.23
For water meters,	3,663.10
For penalties,	8.00
For sundries,	7,031.69
	<hr/>
	28,394.02
The amount received for water in 1872, was	41,003.51
The amount received for water in 1873, was	97,386.09
The total amount received for water to date, is	138,389.60
The amount of all receipts to date, is	237,810.73

The Commissioners ask for no appropriation at this time.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of Ledger, December 31, 1873, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Water Commissioners which relates to Sewers, is presented herewith.

JOSEPH J. COOKE,	}	<i>Water Commissioners.</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM OCTOBER 1, 1873, TO DECEMBER 31, 1873, INCLUSIVE.

3568	Charles H. Pierce, paid by him for labor at Hope Engine House,	-	-	-	\$90 40
3569	Snow & Lewis, on account for cement,	-	-	-	1,500 00
3570	Thomas Phillips & Co., on account for tin lined lead pipe,	-	-	-	800 00
3571	W. A. Burdick, Agent, drinking trough,	-	-	-	200 00
3572	Hammond, Angell & Co., printing,	-	-	-	287 40
3573	{ Albert Dailey, William H. Gale, Achibald B. Rice,	{ services as referees in the matter in dispute, between the City of Providence, represented by its Water Commissioners and Freeborn Johnson & Co.,	-	-	25 00
3574	Hopkins & Poinroy, coal,	-	-	-	1,565 66
3575	" " cement, lime, carting bricks, &c.,	-	-	-	2,831 31
3576	" " " " " "	-	-	-	1,316 32
3577	" " coal,	-	-	-	1,286 16
3578	Fales, Jenks & Sons, on account for work delivered,	-	-	-	20,000 00
3579	Calvin C. Campbell, " " " granite rubble,	-	-	-	200 00
3580	Schooner Dexter, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	96 36
3581	Ira Mathewson, lightning rods at Hope Engine House,	-	-	-	107 50
3582	Read & Richards, labor in construction of Hope Engine House,	-	-	-	3,000 00
3583	Providence Steam Engine Co., labor, castings, &c.,	-	-	-	115 09
3584	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	-	-	8,800 00
3585	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	-	-	5,800 00
3586	G. B. & W. F. Inman, setting fire hydrants, repairing streets, &c.,	-	-	-	416 36
3587	G. B. & W. F. Inman, carting pipes,	-	-	-	544 50
3588	George W. Smith, labor at Sockanosset Reservoir,	-	-	-	25 00
3589	Michael Tallant, " " Hope Engine House,	-	-	-	72 00
3590	Charles H. Pierce, paid by him for labor at Hope Pumping Station,	-	-	-	366 78
3591	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	5,004 80
3592	John W. Mathewson & Co., on account for granite,	-	-	-	3,160 00
3593	Calvin C. Campbell, " " " "	-	-	-	2,005 60
3594	Taunton Brick Co., " " " bricks,	-	-	-	6,000 00
3595	George W. Smith, cutting curbstones for hydrant boxes,	-	-	-	36 00
3596	George E. Sammis, spikes,	-	-	-	10 20
3597	Providence and New York Steamship Co., freight of meters,	-	-	-	10 20
3598	Providence Gas Company, gas,	-	-	-	12 88

Amount carried forward, - - - \$65,655 78

	Amount brought forward,	-	-	\$65,665 78
3599	Benoit & Wood, mounted paper, &c.,	-	-	21 00
3600	N. Webber, rubber boots, -	-	-	21 00
3601	Cleveland & Brothers, office furniture, &c.,	-	-	54 75
3602	Akerman & Co., blank books, &c.,	-	-	79 75
3603	Henry W. Clapp, sewer caps, used at Pettaconset,	-	-	89 00
3604	H. B. Bowen, hydrant bolts,	-	-	261 90
3605	Henry R. Worthington, water meters,	-	-	1,628 00
3606	Union Water Meter Co., " " -	-	-	526 25
3607	William H. Miller & Co., repairing tools, &c.,	-	-	117 17
3608	Builder's Iron Foundry, special castings, valve covers and rings,	-	-	2,405 36
3609	Daniel F. Burlingame, sharpening stone tools, &c.,	-	-	196 19
3610	Dexter Gorton & Co., lumber, carpenter's work, &c.,	-	-	2,039 17
3611	M. D. Copeland, carting bricks to Pettaconset,	-	-	543 16
3612	Fuller Iron Works, special castings and valve boxes,	-	-	1,883 74
3613	Stephen Knobb, carting stone,	-	-	50 70
3614	Schooner Frederic Hall, freight of bricks, (charged to S. F. & J. A. Gray.)	-	-	245 00
3615	S. F. & J. A. Gray, on account of bricks,	-	-	1,300 00
3616	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
3617	Samuel M. Gray, " " " " &c.,	-	-	335 00
3618	Charles H. Swan, " " " " -	-	-	166 67
3619	Otis F. Clapp, " " " " -	-	-	208 33
3620	Howard A. Carson, " " " " -	-	-	208 33
3621	William T. Schneider, " " " " -	-	-	100 00
3622	C. Frank Allen, " " " " -	-	-	125 00
3623	John E. Bowen, " " " " -	-	-	100 00
3624	Lucius J. Sampson, " " " " -	-	-	83 33
3625	George H. Slade, " " " " -	-	-	83 33
3626	Daniel D. Waterman, " " " " -	-	-	66 67
3627	George F. Munro, " " student and assistant engineer,	-	-	61 83
3628	Charles F. Janes, " " service pipe engineer,	-	-	100 00
3629	William F. Janes, " " assistant service pipe engineer,	-	-	66 67
3630	Augustus F. Nagle, " " mechanical engineer,	-	-	200 00
3631	Leprillete Sweet, 2d, " " student, engineering department,	-	-	41 67
3632	Henry N. Francis, " " " " " "	-	-	41 67
3633	Edmund B. Weston, " " " " " "	-	-	41 67
3634	Louis R. Daniels, " " &c. " " " "	-	-	50 00
3635	Walter R. Jackson, " " " " " "	-	-	33 33
3636	Edwin P. Dawley, " " " " " "	-	-	33 33
3637	Charles M. Hunt, " " " " " "	-	-	25 00
3638	Frank B. Ferris, " " " " " "	-	-	25 00
3639	Thomas L. Botta, " " " " " "	-	-	25 00
3640	William H. Olmstead, salary as student, engineering dept.,	-	-	25 00
3641	William M. Brown, Jr., " " " " " "	-	-	33 33
3642	Joshua C. Drown, Jr., " " clerk, " " " "	-	-	75 00
3643	Walter F. Slade, " " service pipe clerk, " "	-	-	83 33
3644	William H. Turner, salary as clerk, engineering department,	-	-	100 00
	Amount carried forward,	-	-	\$79,936 41

	Amount brought forward,	-	-	-	\$79,936 41
3645	William Aplin, salary as clerk, &c., engineering department,	-	-	-	83 33
3646	Daniel C. Stone, salary as temporary office assistant, engineering department,	-	-	-	27 60
3647	Louis W. Peck, salary as temporary office assistant, engineering department,	-	-	-	8 00
3648	Irving H. Potter, salary as temporary office assistant, engineering department,	-	-	-	29 70
3649	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
3650	Elbert Purdy, " " inspector on pipe line,	-	-	-	108 00
3651	William H. Patterson, " " " " "	-	-	-	108 00
3652	Foster S. Dennis, Jr., " " " " "	-	-	-	52 00
3653	Samuel R. Eccleston, " " " of pipes, &c.,	-	-	-	122 00
3654	S. Horace Wheeler, " " " " service pipes,	-	-	-	125 00
3655	Henry M. Wilcox, " " assistant inspector of service pipes,	-	-	-	85 00
3656	Frederic A. Arnold, " " inspector of water fixtures,	-	-	-	83 33
3657	Henry G. Dennis, salary as superintendent of pipe yard,	-	-	-	125 00
3658	Richard M. Wood, " " clerk at pipe yard,	-	-	-	66 67
3659	Jeptha Baker, " " keeper of Sockanosset Reservoir,	-	-	-	75 00
3660	George F. Battey, salary as pumping engineer,	-	-	-	100 00
3661	John Hamilton, " " fireman,	-	-	-	80 00
3662	George F. Barney, " " " " "	-	-	-	60 00
3663	Barrows Chace, " " inspector at Hope Reservoir,	-	-	-	110 00
3664	Alexis C. Miller, " " " " " "	-	-	-	105 00
3665	George H. DeForest, " " timekeeper, " "	-	-	-	97 50
3666	William F. Tanner, " " axeman,	-	-	-	50 00
3667	John Murphy, " " " " "	-	-	-	34 00
3668	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	-	66 67
3669	Thomas C. Gushee, " " " " "	-	-	-	83 33
3670	Philip S. Chase, " " " " "	-	-	-	125 00
3671	Clinton D. Sellow, " secretary of water commissioners,	-	-	-	200 00
3672	George F. Johnson, care of rooms,	-	-	-	58 50
3673	Corliss Steam Engine Co., labor, &c.,	-	-	-	38 13
3674	Darling, Brown & Sharpe, box wood scales,	-	-	-	7 00
3675	A. C. Eddy & Studleys, packing,	-	-	-	7 72
3676	W. E. Barrett & Co., iron tray coal barrow,	-	-	-	25 00
3677	Providence & Newport Lead Works, lead,	-	-	-	47 32
3678	Isaac A. Sherman, carting safe to Hope Pumping Station,	-	-	-	6 00
3679	Providence Gas Co., pipe, elbows, tees and labor,	-	-	-	26 38
3680	M. D. Copeland, teaming,	-	-	-	216 00
3681	Wood & Winsor, machinists' work, use of tools, &c.,	-	-	-	180 12
3682	Charles H. Pierce, paid by him for sundries,	-	-	-	45 31
3683	Samuel M. Gray, horse hire, &c.,	-	-	-	82 47
3684	Charles H. Pierce, paid by him for labor at wharf,	-	-	-	738 42
3685	William S. Briggs, horse hire by engineers,	-	-	-	69 00
3686	William H. Miller, tools, &c.,	-	-	-	70 29

Amount carried forward, - - - \$83,930 87

	Amount brought forward,	-	-	-	\$83,930 87
3687	G. & C. P. Hutchins, oil, lanterns, &c.,	-	-	-	63 00
3688	Lobdell & Newmans, extra labor, &c., at Hope Pumping Station,	-	-	-	250 28
3689	W. Congdon & Sons, steel tape, wire, &c.,	-	-	-	38 20
3690	Union Water Meter Co., water meters,	-	-	-	1,008 80
3691	W. A. Burdick, Agent, stone paving at Hope Reservoir, &c.,	-	-	-	2,385 70
3692	Freeborn Johnson & Co., building cottages at Pettaconset, per referees' award,	-	-	-	1,645 37
3693	Baker & Howe, models, &c.,	-	-	-	47 86
3694	Thomas J. Hill, rent of wharf,	-	-	-	500 00
3695	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	1,000 00
3696	Gladding Brothers & Tibbitts, stationery,	-	-	-	110 53
3697	W. A. Burdick, Agent, cut granite,	-	-	-	3,200 00
3698	Samuel M. Gray, paid by him for labor at Hope Pumping Station,	-	-	-	1,161 83
3699	Thomas Phillips & Co., laying service pipes,	-	-	-	287 08
3700	" " " " " " " " " "	-	-	-	850 14
3701	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	3,726 25
3702	" " " " " " " " " "	-	-	-	400 00
3703	" " " " " " " " " " Hope Engine House,	-	-	-	124 00
3704	George W. Smith, cutting curbstones for hydrant boxes,	-	-	-	15 00
3705	Lobdell & Newmans, on account of construction of Hope Reservoir,	-	-	-	9,625 00
3706	G. B. & W. F. Inman, trenching and back filling and laying water pipes,	-	-	-	5,100 00
3707	G. B. & W. F. Inman, setting fire hydrants, repairing streets, &c.,	-	-	-	227 53
3708	G. B. & W. F. Inman, carting pipes,	-	-	-	201 53
3709	Warren Foundry and Machine Co., cast iron water pipes,	-	-	-	3,975 87
3710	" " " " " " " " " "	-	-	-	15,031 95
3711	Clyde's Iron Line of Steamships, freight of iron beams, (charged to Phenix Iron Co.,)	-	-	-	30 08
3712	Phenix Iron Company, iron beams,	-	-	-	1,905 07
3713	Thomas Phillips & Co., on account of service pipe, laying service pipe, &c.,	-	-	-	2,280 00
3714	John W. Mathewson & Co., stone delivered at Pettaconset,	-	-	-	1,734 74
3715	George W. Hall & Co., drain pipe, cartage, &c.,	-	-	-	656 40
3716	Daniel F. Burlingame, sharpening stone tools, &c.,	-	-	-	132 26
3717	Lobdell & Newmans, extra labor, &c., at Hope Pumping Station,	-	-	-	689 70
3718	Wm. D. Andrews & Bro., use of drainage pump, &c.,	-	-	-	1,208 33
3719	Builders' Iron Foundry, special castings, &c.,	-	-	-	876 38
3720	Fuller Iron Works, " " " " " " " " " "	-	-	-	1,328 63
3721	Warren Foundry and Machine Co., cast iron water pipes, &c.,	-	-	-	144 68
3722	T. & W. Breck, rent of offices, &c.,	-	-	-	762 50
3723	G. & T. H. Colvin, standards for drinking fountains,	-	-	-	209 44
3724	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	-	4,307 22
3725	Fales, Jenks & Sons, on account for work delivered,	-	-	-	16,000 00
3726	S. F. & J. A. Gray, bricks,	-	-	-	306 27
	Amount carried forward,	-	-	-	\$167,506 48

	Amount brought forward,	-	-	-	\$167,506 48
3727	Hopkins & Pomroy, coal, cement, carting bricks, &c.,	-	-	-	3,077 87
3728	Read & Richards, masons' labor, &c.,	-	-	-	616 70
3729	Calvin C. Campbell, granite,	-	-	-	10,194 47
3730	Granite Railway Co.,	-	-	-	843 77
3731	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	250 00
3732	James Carroll, carting sand and gravel,	-	-	-	126 00
3733	Stephen Knobb, carting stone,	-	-	-	72 86
3734	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	132 85
3735	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
3736	Samuel M. Gray, " " " " &c.,	-	-	-	335 00
3737	Charles H. Swan, " " " " "	-	-	-	166 67
3738	Otis F. Clapp, " " " " "	-	-	-	208 83
3739	Howard A. Carson, " " " " "	-	-	-	203 33
3740	William T. Schneider, " " " " "	-	-	-	100 00
3741	C. Frank Allen, " " " " "	-	-	-	125 00
3742	John E. Bowen, " " " " "	-	-	-	100 00
3743	Lucius J. Sampson, " " " " "	-	-	-	83 33
3744	George H. Slade, " " " " "	-	-	-	83 33
3745	Daniel D. Waterman, " " " " "	-	-	-	66 67
3746	George F. Munro, " " " " "	-	-	-	83 33
3747	Leprilte Sweet, 2d, " " student and assistant engineer,	-	-	-	70 83
3748	Charles F. Janes, " " service pipe engineer,	-	-	-	100 00
3749	William F. Janes, " " assistant service pipe engineer,	-	-	-	66 67
3750	Augustus F. Nagle, " " mechanical engineer,	-	-	-	200 00
3751	Henry N. Francis, " " student, engineering department,	-	-	-	41 67
3752	Edmund B. Weston, " " " " "	-	-	-	41 67
3753	Louis R. Daniels, " " " " &c., " " "	-	-	-	13 33
3754	Walter R. Jackson, " " " " "	-	-	-	33 33
3755	Edwin P. Dawley, " " " " "	-	-	-	33 33
3756	Charles M. Hunt, " " " " "	-	-	-	25 00
3757	Frank B. Ferris, " " " " "	-	-	-	25 00
3758	Thomas L. Botts, " " " " "	-	-	-	25 00
3759	William H. Olmstead, salary as student &c., engineering dept.,	-	-	-	26 60
3760	William M. Brown, Jr., " " " " "	-	-	-	33 33
3761	Daniel C. Stone, " " &c., " " "	-	-	-	38 73
3762	Walter F. Slade, salary as service pipe clerk, engineering department,	-	-	-	83 33
3763	Joshua C. Drown, Jr., salary as clerk, engineering department,	-	-	-	75 00
3764	William Apin, salary as clerk, engineering department,	-	-	-	83 33
3765	William H. Turner, salary as clerk engineering department,	-	-	-	100 00
3766	Irving H. Potter, " " temporary office assistant engineering department,	-	-	-	36 45
3767	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
3768	Elbert Purdy, " " inspector on pipe line,	-	-	-	100 00
3769	William H. Patterson, " " " " "	-	-	-	100 00
3770	Samuel R. Eccleston, " " " of pipes,	-	-	-	125 00
3771	S. Horace Wheeler, " " " of service pipes,	-	-	-	125 00
	Amount carried forward,	-	-	-	\$186,401 96

	Amount brought forward,	-	-	-	\$186,401 96
3772	Henry M. Wilcox, salary as assistant inspector of service pipes,	-	-	-	85 00
3773	Frederic A. Arnold, salary as inspector of water fixtures,	-	-	-	83 33
3774	Henry G. Dennis, " " superintendent of pipe yard,	-	-	-	125 00
3775	Richard M. Wood, " " clerk at pipe yard,	-	-	-	66 67
3776	Jephtha Baker, " " keeper of Sockanosset Reservoir,	-	-	-	77 50
3777	George F. Battey, salary as pumping engineer,	-	-	-	100 00
3778	John Hamilton, " " fireman,	-	-	-	80 00
3779	George F. Barney, " " " "	-	-	-	60 60
3780	Burrows Chace, " " inspector at Hope Reservoir,	-	-	-	133 00
3781	Alexis C. Miller, " " " " " "	-	-	-	105 00
3782	George H. DeForest, " " time keeper, " "	-	-	-	96 45
3783	C. O. Carpenter, " " inspector of masonry,	-	-	-	32 00
3784	John Murphy, " " axeman,	-	-	-	50 00
3785	William F. Tanner, " " " "	-	-	-	42 60
3786	Leonard N. Austin, Jr., salary as commissioner's clerk,	-	-	-	66 67
3787	Thomas C. Gushee, " " " "	-	-	-	83 33
3788	Philip S. Chase, " " " "	-	-	-	125 00
3789	Clinton D. Sellaw, salary as secretary of water commissioners,	-	-	-	200 00
3790	George F. Johnson, care of rooms,	-	-	-	54 50
3791	Charles H. Pierce, paid by him for sundries,	-	-	-	41 77
3792	" " " " " " labor at wharf,	-	-	-	741 58
3793	Moulton & Ingraham, stakes and strips, engineers' department,	-	-	-	6 74
3794	Yetter & Wack, sprinkling street,	-	-	-	10 00
3795	Providence and New York Steamship Co., freight of water meters,	-	-	-	18 25
3796	William H. Miller & Co., tools, repairing tools, &c.,	-	-	-	61 06
3797	William E. Barrett & Co., tools, &c.,	-	-	-	85 30
3798	W. P. Knickerbocker & Co., rope,	-	-	-	42 26
3799	William S. Briggs, horse hire, by engineers,	-	-	-	48 00
3800	C. J. Wheeler, advertising,	-	-	-	120 00
3801	Kenneth McKay, labor at Hope Engine House,	-	-	-	125 37
3802	Boston Machine Co, post hydrants,	-	-	-	135 00
3803	M. D. Copeland, teaming, &c.,	-	-	-	248 33
3804	Henry R. Worthington, water meters,	-	-	-	1,181 00
3805	Freeborn & Crowell, labor, &c., at Hope Engine House, cottages at Pettaconset, &c.,	-	-	-	888 42
3806	Samuel M. Gray, horse hire, &c.,	-	-	-	112 78
3807	William M. Bender & Co., tiles for drain,	-	-	-	77 84
3808	Samuel M. Gray, paid by him for labor at Hope Pumping Station,	-	-	-	631 54
3809	Charles H. Pierce, labor setting blow-off,	-	-	-	21 00
3810	Freeborn & Crowell, labor, &c., at Hope Engine House,	-	-	-	218 40
3811	Snow & Lewis, cement,	-	-	-	1,162 25
3812	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	4,062 15
3813	Daniel F. Burlingame, repairing tools, &c.,	-	-	-	95 87
	Amount carried forward,	-	-	-	\$198,204 94

	Amount brought forward,	-	-	\$198,204 94
3814	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	1,376 12
3815	Taunton Brick Co., bricks, -	-	-	7,112 29
3816	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	500 00
3817	Charles Stafford, et al, payment of execution issued on judgment rendered by the Supreme Court,	-	-	24,742 13
3818	George W. Smith, cutting curbstones for hydrant boxes,	-	-	6 00
3819	Lobdell & Newmans, on account of construction of Hope Reservoir,	-	-	7,300 00
3820	W. A. Burdick, Agent, granite,	-	-	2,250 00
3821	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	-	2,700 00
3822	G. B. & W. F. Inman, carting pipes,	-	-	143 10
3823	Thomas Phillips & Co., on account of tin lined lead pipe, and laying service pipe,	-	-	1,000 00
3824	G. B. & W. F. Inman, on account of reservations in former bills,	-	-	9,000 00
3825	Wood & Winsor, pipe, tees, nipples, elbows, &c.,	-	-	92 33
3826	John W. Mathewson & Co., granite,	-	-	2,098 10
3827	Warren Foundry and Machine Co., on account of iron pipes,	-	-	3,326 67
3828	W. A. Burdick, Agent, granite,	-	-	2,000 00
3829	J. W. Moore, roofing, cement, labor, &c.,	-	-	41 31
3830	M. D. Copeland, teaming,	-	-	127 18
3831	B. F. Almy, cop waste,	-	-	13 00
3832	W. A. Burdick, Agent, granite,	-	-	2,160 00
3833	Olney Brothers, oil,	-	-	76 27
3834	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	431 37
3835	Stephen Knobb, carting granite,	-	-	17 44
3836	John A. Moore, teaming,	-	-	123 49
3837	Wm. H. Miller & Co., repairing tools, &c.,	-	-	110 61
3838	Nelson Titus, carting pile driver to Pettaconset, &c.,	-	-	72 00
3839	Tuttle & Hobbs, roan horse,	-	-	175 00
3840	Builders' Iron Foundry, special castings, &c.,	-	-	113 02
3841	Schooner Fashion, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	201 74
3842	Fuller Iron Works, special castings and valve boxes,	-	-	2,290 31
3843	Charles H. Pierce, paid by him for labor repairing streets,	-	-	19 85
3844	Hopkins & Pomroy, coal, cement and carting bricks,	-	-	4,127 87
3845	Providence Steam Engine Co., machinists' labor, &c.,	-	-	346 99
3846	W. Coleman & Sons, blocks, and repairing blocks,	-	-	16 20
3847	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	200 00
3848	Calvin C. Campbell, granite, and labor on granite,	-	-	1,348 66
3849	Providence Steam & Gas Pipe Co., pipe, elbows, tees, couplings, &c.,	-	-	212 83
3850	J. Herbert Shedd, salary as chief engineer,	-	-	2,000 00
3851	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
3852	Samuel M. Gray, " " " " &c.,	-	-	335 00
3853	Charles H. Swan, " " " " -	-	-	166 67
3854	Otis F. Clapp, " " " " -	-	-	208 33
3855	Howard A. Carson, " " " " -	-	-	208 33

Amount carried forward, - - - \$277,265 15

	Amount brought forward,	-	-	-	\$277,265 15
3856	Wm. T. Schneider, salary as assistant engineer,	-	-	-	100 00
3857	C. Frank Allen, " " " "	-	-	-	125 00
3858	John E. Bowen, " " " "	-	-	-	100 00
3859	Lucius J. Sampson, " " " "	-	-	-	83 33
3860	George H. Slade, " " " "	-	-	-	83 33
3861	Daniel D. Waterman, " " " "	-	-	-	66 67
3862	George F. Munro, " " " "	-	-	-	83 33
3863	Leprilete Sweet, 2d, " " " "	-	-	-	83 33
3864	Charles F. Janes, " " service pipe engineer,	-	-	-	100 00
3865	William F. Janes, " " assistant service pipe engineer,	-	-	-	66 67
3866	Augustus F. Nagle, " " mechanical engineer,	-	-	-	200 00
3867	Henry N. Francis, " " student, engineering department,	-	-	-	41 67
3868	Edmund B. Weston, " " " "	-	-	-	41 67
3869	Walter R. Jackson, " " " "	-	-	-	33 33
3870	Edwin P. Dawley, " " " "	-	-	-	33 33
3871	Charles M. Hunt, " " " "	-	-	-	25 00
3872	Frank B. Ferris, " " " "	-	-	-	25 00
3873	Thomas L. Botta, " " " "	-	-	-	25 00
3874	William H. Olmstead, " " " "	-	-	-	25 00
3875	William M. Brown, Jr., " " " "	-	-	-	33 33
3876	Daniel C. Stone, " " " "	-	-	-	33 33
3877	Walter F. Slade, " " service pipe clerk, engineering dep't,	-	-	-	83 33
3878	Joshua C. Drown, Jr., " clerk, engineering department,	-	-	-	14 52
3879	William Aplin, " " " "	-	-	-	83 33
3880	William H. Turner, " " " "	-	-	-	100 00
3881	Irving H. Potter, salary as temporary office assistant, engi- neering department,	-	-	-	31 80
3882	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
3883	Elbert Purdy, " " inspector on pipe line,	-	-	-	84 00
3884	S. Horace Wheeler, " " " of service pipes,	-	-	-	125 00
3885	Henry M. Wilcox, " " assistant inspector of service pipes,	-	-	-	85 00
3886	Samuel R. Eccleston, " " inspector of pipes,	-	-	-	135 00
3887	Frederic A. Arnold, " " " water fixtures,	-	-	-	83 33
3888	Burrows Chace, " " " at Hope Reservoir,	-	-	-	127 50
3889	Henry G. Dennis, " " superintendent of pipe yard,	-	-	-	125 00
3890	Richard M. Wood, " " clerk at pipe yard,	-	-	-	66 67
3891	Jeptha Baker, " " keeper of Sockanosset Reser- voir,	-	-	-	62 50
3892	George F. Battey, salary as pumping engineer,	-	-	-	100 00
3893	John Hamilton, " " fireman,	-	-	-	80 00
3894	George F. Barney, " " " "	-	-	-	60 00
3895	George H. DeForest, " " timekeeper at Hope Reservoir,	-	-	-	78 15
3896	William F. Tanner, " " axeman,	-	-	-	49 60
3897	John Murphy, " " " "	-	-	-	43 75
3898	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	-	66 67
3899	Thomas C. Gushee, " " " "	-	-	-	83 33
3900	Phillip S. Chace, " " " "	-	-	-	125 00
3901	Clinton D. Sellew, " " secretary of water commis- sioners,	-	-	-	200 00
	Amount carried forward,	-	-	-	\$280,933 62

	Amount brought forward,	-	-	\$280,933 62
3902	Joseph J. Cooke, salary as water commissioner,	-	-	500 00
3903	Charles E. Carpenter, salary as water commissioner,	-	-	500 00
3904	William Corliss, " " " "	-	-	500 00
3905	George F. Johnson, care of rooms,	-	-	58 20
3906	Charles H. Pierce, paid by him for sundries,	-	-	85 35
3907	" " " " " " labor at wharf,	-	-	518 42
3908	Samuel M. Gray, horse hire, &c.,	-	-	105 63
3909	Clinton D. Sellew, paid by him for sundries,	-	-	55 21
3910	John H. Appleton, analyses, &c.,	-	-	32 50
3911	Gladding Brothers & Tibbitts, stationery,	-	-	55 21
3912	Valpey, Angell & Co., "	-	-	16 39
3913	Benoit & Wood, mounted paper and brush,	-	-	15 75
3914	Hammond, Angell & Co., printing,	-	-	197 05
3915	Cleveland & Brothers, office furniture,	-	-	20 74
3916	William S. Briggs, horse hire by engineers,	-	-	18 00
3917	Tuttle & Hobbs, horse hire, &c., engineering department,	-	-	135 25
3918	M. D. Copeland, teaming,	-	-	166 72
3919	Providence and New York Steamship Co., freight of machinery and meters,	-	-	12 74
3920	G. B. & W. F. Inman, carting pipes,	-	-	128 66
3921	George W. Hall & Co., drain pipe,	-	-	21 45
3922	Johnson & Whittemore, repairing telegraph instruments, &c.,	-	-	15 76
3923	Grant Brothers, repairing wagon,	-	-	5 80
3924	A. C. Eddy & Studleys, rubber boots, &c.,	-	-	14 60
3925	Providence & Newport Lead Works, lead,	-	-	37 36
3926	Providence Concrete Co., repairing wood pavement,	-	-	37 50
3927	Lowell Felting Mills, felt,	-	-	43 26
3928	R. S. Burrough & Co., oil,	-	-	32 62
3929	Henry R. Worthington, water meters,	-	-	920 00
				<hr/>
				\$285,183 79

RECEIVED FROM OCTOBER 1, 1873, TO DECEMBER 31, 1873, INCLUSIVE, AND PAID TO THE CITY TREASURER.

1873.			
October	11.	Of Samuel M. Gray, for sundries,	\$39 00
	13.	Of John Godfrey, for three months rent of farm in Warwick, purchased of Miss Patience W. Chace, to January 8, 1874,	43 75
	20.	Of Fuller Iron Works, for old iron,	152 00
	25.	Of city of Providence, for sewer expenses,	5,368 17
November	13.	" " " "	168 00
	17.	Of Samuel M. Gray, for sundries,	12 30
	18.	Of Thomas J. Hill, for valve box covers,	29 32
	19.	Of Fuller Iron Works, for old iron,	125 68
	20.	Of Providence Tool Co., for labor and materials,	241 34
	22.	Of Beneficent Congregational Society, for labor and materials,	30 14
		Of Jeremiah Knight, 2d. for labor and materials,	6 27
	25.	Of Beneficent Congregational Society, for labor and materials,	18 29
		Of Providence Gas Co., for special castings,	15 60
	29.	" " for labor and materials,	6 85
December	3.	Of Phineas A. Conley, for grass and pasturage on farm purchased of S. B. Gardiner,	40 00
	6.	Of Robert H. Ives, for labor and materials,	244 28
	10.	Of Rochester Iron Works, for special castings,	31 80
		Of William M. Holloway, for three months rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to March 1, 1874,	56 25
	16.	Of Samuel M. Gray, for sundries,	23 50
	17.	Of Henry G. Dennis, for wharfage,	2 50
	23.	Of Nelson Titus, for hydrant box, broken,	31 98
	27.	Of Richmond Manufacturing Co., for cast iron water pipe,	1 98
	30.	Of Peleg P. Cranston, for three months rent of Randall estate, so called, in Pawtuxet, to January 1, 1874,	50 00
		Of Dexter L. Brownell, for labor and materials,	12 44
		Of Daniel S. Hazard, " " " "	9 00
		Of Fuller Iron Works, for old iron,	271 25
		For water during the present quarter,	17,691 23
		For meters " " " "	3,663 10
		For penalties, " " " "	8 00
Total, - - - - -			\$28,394 02

TRIAL BALANCE OF LEDGER, DECEMBER 31, 1873.

DR.

Hope Reservoir, for land, . . .	\$124,122 80
“ “ “ sundries, . . .	504 04
“ “ “ labor, . . .	1,072 73
“ “ “ gate chambers, . . .	971 50
“ “ “ drain, . . .	404 03
“ “ “ inspection, . . .	2,089 48
“ “ “ conduit, . . .	2,498 00
“ “ “ slope wall, . . .	99 86
“ engine house, . . .	40,405 30
“ pumping station, for coal and wood, . . .	825 42
“ “ “ “ sundries, . . .	3 33
Night and Sunday watch at Hope engine house, . . .	41 23
Sockanosset Reservoir, for construction, . . .	177,870 72
“ “ “ sundries, . . .	4,081 10
“ “ “ land, . . .	16,074 35
“ “ “ watch, . . .	1,509 25
“ “ “ gate houses, . . .	18,585 57
“ “ “ drain, . . .	2,229 77
“ “ “ inspection, . . .	6,819 18
“ “ “ extra work and materials, . . .	189 70
“ “ “ gate chambers, . . .	19,299 27
Line of leading mains, for labor and materials, . . .	19,808 52
“ “ “ extra trenching, etc., . . .	305 95
“ “ “ land and damages, . . .	1,665 00
Force main line for land and damages, . . .	3,006 35
“ “ labor and materials, . . .	5,099 28
“ “ extra trenching, etc., . . .	332 56
Office furniture, stoves, gas fixtures, etc., . . .	1,230 06
Rent of offices, . . .	3,200 00
Books, stationery, etc., . . .	837 70
Fuel and lights, . . .	240 55
Horse-hire by commissioners, . . .	19 00
Janitor of rooms, . . .	563 00
Travelling expenses of commissioners, . . .	122 62
Clerks' salaries, . . .	5,809 51
Commissioners' salaries, . . .	25,708 79
Secretary's salary, . . .	3,386 71
Sundries, . . .	403 78
Printing, . . .	2,042 57
Advertising, . . .	1,665 50
Fences, . . .	2,050 38
Stop valves, . . .	46,992 70
Store house and work shop, . . .	1,207 38
Amount carried forward, . . .	\$604,674 52

Amount brought forward,	\$604,674 52
Rent of wharves and pipe yards,	4,329 50
Linking curved pipes,	233 75
Tools,	7,788 90
Labor on pipes,	15,448 99
Cast iron water pipes,	1,031,863 22
Special castings,	83,056 68
Lumber,	1,455 71
Fire hydrants,	68,755 66
Sockanosset hill cross road,	3,855 38
Pettaconset and Sockanosset telegraph line,	1,758 01
Dwelling houses at Pettaconset,	9,544 46
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,557 92
Real estate in Warwick,	13,118 04
Water privileges, mill and other real estate, in	
Pawtuxet,	50,231 96
Pochasset bridge,	5,559 82
Wharf salaries,	6,349 44
Temporary engine house at Pettaconset,	9,021 32
Roads, slopes, etc., at Pettaconset,	11,454 32
Engine house at Pettaconset,	115,534 60
Natural Filter Basin,	33,167 93
Removing loam,	462 96
Iron screw piles,	3,766 46
Hydrant bolts,	1,494 29
Pipe bolts,	1,496 45
Photographs,	147 50
Hydrant heads,	6,603 84
Taps and stops,	13,533 46
Valve covers,	7,425 78
Service pipe,	25,153 49
Hydrant boxes,	18,843 01
Setting fire hydrants,	9,055 69
Valve boxes,	26,423 97
Check valves,	1,412 48
Air cocks, boxes, covers and setting,	500 05
Night and Sunday watch at engine house,	1,175 00
Pettaconset pumping station, for land,	26,373 37
Pettaconset pumping station, for sundries,	2,741 36
" " " " engineer,	3,198 28
" " " " coal and wood,	20,379 42
" " " " labor on fuel,	1,263 96
" " " " firemen,	3,096 40
Setting blow-off,	286 66
Ascertaining and removing nuisances on Paw-	
tuxet river,	479 46
Rhode Island Concrete Co.,	150 00
Fales, Jenks & Sons,	40,250 00
G. B. & W. F. Inman,	57,900 00
Amount carried forward,	\$2,361,147 79

Amount brought forward,	\$2,361,147 79	
Lobdell & Newmans,	43,650 00	
John W. Mathewson & Co.,	9,142 84	
Town of Cranston,	5,000 00	
A. & W. Sprague Manufacturing Co.,	2,500 00	
Thomas Phillips & Co.,	6,450 00	
City of Providence, fountain, Abbott Park,	702 07	
Samuel M. Gray,	700 00	
W. A. Burdick, Agent,	14,935 19	
Builders' Iron Foundry,	232 92	
Providence Gas Co.,	1,093 09	
C. B. Sawyer,	1 25	
Oren A. Ballou,	238 74	
Henry W. Wilkinson,	184 43	
City Treasurer,	99,421 13	
" " for water payments,	138,389 60	
Testing pipe iron,	443 50	
Iron drain pipes and gate,	224 21	
Carting pipes,	29,985 57	
Counsel fees,	4,200 00	
Inspection of pipes,	7,967 56	
Inspection of pipe laying,	21,688 56	
Inspection of water fixtures,	1,832 07	
Testing bolts and composition castings,	34 25	
Laying water pipes,	268,331 41	
" service pipes,	20,473 21	
" suction pipe, etc ,	85 00	
Drainage pump and engine,	4,881 02	
Hydrants for street sprinklers,	1,654 38	
Temporary boarding house, at Pettaconset,	1,237 24	
Public drinking fountains and troughs,	513 46	
Expense of testing engines,	5 75	
Water meters,	25,442 15	
Water meters set, belonging to the city,	1,101 00	
Worthington pumping engine,	37,722 30	
		\$3,121,611 69

ENGINEERING DEPARTMENT. -

For instruments,	\$2,695 40	
Tools,	657 36	
Furniture, stoves, gas fixtures, etc.,	2,490 17	
Books, stationery, etc.,	2,511 26	
Draughting,	3,523 52	
Labor,	4,904 88	
Horse and wagon account,	1,482 72	
Horse keeping, shoeing, etc.,	1,344 70	
Horse hire,	3,320 40	
Rent of offices,	5,790 61	
Fuel and lights,	597 74	
Janitor of rooms,	1,116 58	
Amounts carried forward,	\$30,435 34	\$3,121,611 69

Amounts brought forward,	\$30,435 34	\$3,121,611 69
Experimental filter,	91 08	
Sundries,	2,278 79	
Test walls,	1,579 40	
Consultations,	827 08	
Office building, at Pettaconset,	553 21	
“ “ “ Sockanosset reservoir,	563 22	
Stakes and strips,	704 21	
Printing,	418 96	
Maps,	86 07	
Service pipe experiments,	295 76	
Temporary assistance,	6,934 67	
Salaries,	108,766 41	
	<hr/>	153,534 80
		<hr/>
		\$3,275,146 49

OR.

Hope reservoir, for land, (rents received and buildings, etc., sold,)	\$5,883 28	
Sockanosset reservoir, for land, (rents received, and wood, etc., sold,)	1,534 49	
Real estate in Warwick, (rents received,)	931 25	
Pettaconset pumping station, for land, (rents received,)	479 89	
Water privileges, mill and other real estate, in Pawtuxet, (rents received,)	2,939 53	
J. B. & J. M. Cornell,	1,000 00	
Warren Foundry and Machine Co.,	173 26	
Interest,	54 66	
Boston hydrants,	28 29	
Water meters,	35,589 50	
Penalties,	82 00	
Water,	138,389 60	
Approved bills,	3,088,060 74	
	<hr/>	\$3,275,146 49



1873-74.

CITY DOCUMENT.

No. 59.

FINAL REPORT

OF THE

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

(Elected September 27, 1869.)

FEBRUARY 28, 1874.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1874.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main street.

REPORT.

OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, February 28th, 1874. }

TO THE HONORABLE THE CITY COUNCIL :

The undersigned, Water Commissioners, two of whom were elected September 27, 1869, for the term of three years, and the other, May 23, 1872, to fill the vacancy caused by the death of Moses B. Lockwood ; all of whose terms of office have been twice extended by the City Council, who were thereto authorized by special acts of the General Assembly, respectfully present their final report:

A statement of the appointment of Leprilete Sweet, 2d, as Assistant Engineer, at a salary of one thousand dollars per annum, dating from November 10, 1873, was omitted from the last quarterly report. Mr. Sweet had served three years as a student in the Engineering Department.

An offer of the Fuller Iron Works, of this city, to furnish 1,200 Service Boxes, with plugs, at four cents per pound, has been accepted.

A contract has been executed with W. A. Burdick, Agent, Westerly, R. I., for furnishing dressed granite for capping beam walls, delivered on the ground at Pettaconset, for two dollars per cubic foot.

A deed prepared by the City Solicitor, and signed by the City Treasurer, in accordance with a resolution of the City Council, approved January 15, 1874, to the town of Cranston, for a public highway, of a strip of land in said town, over which a portion of "Reservoir Avenue" passes, and in which the mains leading from Sockanosset Reservoir are laid, has been delivered to the Council Clerk of said town. The said strip, lying between Sockanosset hill cross road and Po-chasset bridge, was conveyed to the city by the heirs of Joseph Harris, deceased, subject to use as a public highway of said town of Cranston. On the delivery of said deed, the sum of five thousand dollars was received by the Commissioners for work, etc., in grading what is now Reservoir Avenue, in said town of Cranston.

Comparatively little out-door work has been done since the date of the last quarterly report. No water mains have been laid. No fire hydrants have been set. Work on the foundation walls of the engine-house has been prosecuted as the weather allowed. Work on the slope-wall of Hope Reservoir, and the breaking and screening of stone, has been done by the contractors for the construction of the reservoir, also, as the weather allowed. The work of constructing a retaining wall of the reservoir embankment, near Hope Pumping Station, has been carried on.

The following correspondence has been had with the Council Clerk of the Town of North Providence :

TOWN CLERK'S OFFICE, }
NORTH PROVIDENCE, Jan'y 12th, 1874. }

TO PROV. WATER COMMISSIONERS :

The following is a resolution passed by the Town Council of this town, on the 5th instant :

Resolved, That the resolution of the town Council, April 7th, 1873, in relation to laying water pipes and establishing hydrants in the town of North Providence, be and the same is hereby recinded.

ROYAL LEE, Council Clerk.

REPORT OF THE WATER COMMISSIONERS.

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OFFICE OF THE WATER COMMISSIONERS, }
PROVIDENCE, R. I., January 14th, 1874. }

TO THE HONORABLE THE TOWN COUNCIL OF THE TOWN
OF NORTH PROVIDENCE:

A communication dated 12th instant, from Royal Lee, Esq., Council Clerk, embracing a copy of the following resolution, passed by your Honorable Body on the 5th instant, has been received by the Water Commissioners:

"*Resolved*, That the resolution of the town Council, April 7th, 1873, in relation to laying water pipes and establishing hydrants in the town of North Providence, be and the same is hereby rescinded."

The Commissioners have instructed me to say that, while literally the resolution *rescinds* the resolution in relation to laying pipes and setting hydrants, passed April 7, 1873, they presume that the *intention* of the Council was to stop any more work under the contract created by the last named resolution and *not* to disclaim responsibility for what had been already done. *If* the Commissioners err in this matter they would be glad to be promptly informed.

JOSEPH J. COOKE, President.

TOWN CLERK'S OFFICE, }
NORTH PROVIDENCE, R. I., Jan'y 15th, 1874. }

WATER COMS, GENT:

Yours of the 14th is rec'd, in answer your bills presented were ordered to be paid.

The object was to stop any further work under that resolution until some arrangement should be made by the parties outside of our fire corporation in this village where we are taxed independent of that section of the town for lights and fire purposes.

Yours truly,

ROYAL LEE, C. Clerk,

The Commissioners this day received, by the hands of a special messenger, the report of the committee appointed in accordance with a provision in the contract executed with George H. Corliss, February 8, 1872, to make a comparative test of the value of the engine furnished by said Corliss, for Hope Pumping Station, and the Worthington Duplex Engine, at Pettaconset. The said report is dated 24th February, instant: a copy of it is hereunto appended. The Commissioners refrain in this report from making any comment on this document.

For convenience of reference in this connection, a copy of the agreement executed with Mr. Corliss is hereunto appended.

Plumbers' licenses have been issued to the following persons :

Thomas I. Hudson, Alexander Lupton.

The whole number of Plumbers' licenses issued is forty-two.

The average daily consumption of water during the months of January and February, has been about 1,750,000 gallons.

The height of water in Sockanosset Reservoir at four o'clock this afternoon, was 180.32. High water in the reservoir is 180.50 (above high tide in Providence river).

Seventy-seven Ball and Fitts' water meters, made by the Union Water Meter Co., and twenty-seven Worthington water meters, have been put in at the expense of water takers since the date of the last report. Since the commencement, two five-eighths inch Ball and Fitts' water meters, burst by freezing, have been removed, and the parties now pay schedule rates.

There are twelve hundred and seventy-nine water meters now in use, viz :

1,001 five eighths inch.
161 three-quarters inch.
66 one inch.
41 one and one-half inch.
8 two inch.
2 four inch.

1,279

An error in the number of applications for a supply of water in the report of July 1, 1873, and continued through the two succeeding reports, has been corrected. The total number of applications is now four thousand four hundred and eight.

The number of service stops opened during the last two months is thirty-nine.

The total number of service stops opened to date is thirty-five hundred and fifty-four.

Fifty stops have been closed since the date of the last report for non-payment of bills, fifteen of which have been re-opened on payment of bills and a penalty in each case of two dollars.

Two stops closed for non-payment have been re-opened without charge, for reason of attendant circumstances. Six stops have been closed to enable the owners to set meters, there being no stop-cock on the premises, for five of which a charge of two dollars was paid at the time the request was made to have them closed, and one at the time of re-opening. Eleven stops have been closed by request, where a charge of two dollars has been paid, six of which have been re-opened. Thirty-eight stops closed for non-payment remain unopened. The use of two service pipes has been discontinued, but the pipes remain, in view of possible contingences.

Water is now supplied for the following uses :

6 bakeries ; 30 banks ; 49 bar-rooms ; 1 bath house ; 1 bath

house—Turkish ; 89 boarding houses ; 6 bottling establishments ; 28 building purposes ; 1 car house ; 2 carriage depots ; 1 Christian Union ; 15 churches ; 1 city barn ; 1 city bridge, Point street ; 1 city building ; 5 city drinking fountains ; 14 city drinking troughs ; 728 city fire hydrants ; 9 city fire steamer stations ; 2 city hose houses ; 6 club rooms ; 12 coal yards ; 1 colored shelter ; 1 conservatory of music ; 2 convents ; 1 court house ; 1 decorator ; 1 Dexter Asylum ; 1,562 dwellings of one family ; 1,113 dwellings of two families ; 97 dwellings of three families ; 113 dwellings of four families ; 15 dwellings of five families ; 21 dwellings of six families ; 4 dwellings of seven families ; 4 dwellings of eight families ; 2 dye houses ; 3 elevators ; 2 engravers ; 1 express carriage house ; 38 fire supplies—private ; 41 fountains—private ; 1 fountain—public ; 1 furrier ; 1,998 garden and street hydrants ; 3 gas holders ; 5 gold and silver platers ; 5 gold and silver refiners ; 2 grain elevators ; 25 green houses ; 9 halls ; 1 hall of Latter-day Saints ; 1 Home for Aged Women ; 1 hospital ; 15 hotels ; 1 infirmary ; 1 lithographer ; 3 lodging houses ; 2 lumber dealers. *Manufacturing Establishments.*—2 belt and picker ; 3 blank book ; 2 bleacheries ; 1 bologna sausage ; 1 box ; 1 braiding works ; 2 brass foundries ; 1 brewery ; 1 brush ; 1 butt ; 6 carriage ; 2 cement pipe ; 1 chain ; 5 cigar ; 1 cigar box ; 4 cloak and dress ; 1 coffin ; 4 confectionery ; 1 corset ; 3 colorers of jewelry ; 7 cotton ; 1 crocus ; 1 distillery ; 3 die-sinkers ; 1 dye wood ; 1 emery wheel ; 1 enameler of jewelry ; 1 eyelet ; 2 file ; 6 furniture ; 1 gas ; 1 gas burner ; 3 gas fixtures ; 1 geer ; 1 hat ; 1 harness ; 1 horse shoe ; 2 ice cream and soda water ; 1 ink ; 1 iron company ; 1 iron fence ; 8 iron foundries ; 1 Japan switch ; 1 jewelers' cards ; 73 jewelry ; 4 lapidaries ; 17 machinists ; 1 mowing machine ; 1 nail keg ; 2 oil ; 1 organ ; 2 paper box ; 1 paper collar ; 2 paper cop tube ; 1 pattern ; 3 patent medicine ; 1 picture frame ; 2 pump ; 1 reed ; 1 rubber tubing ; 4 sash and blind ; 2 screw ; 1 sheet iron ; 2 shirt ; 2 silver ware ; 5 soap ; 1 spiral spring ; 1 starch ; 1 steam boiler ; 2 steam engines ; 1 stencil plate ; 1 stove ; 2

tanners; 1 thread; 1 tin; 4 tool; 2 top-roll; 5 woolen goods; 1 yeast. *Markets*.—30 fish; 71 meat. *Mills*.—2 drug and grain; 2 flour and grain; 5 marble works; 1 paint; 9 planing; 1 music hall; 1 nickel plater; 2 odd fellows' halls; 2 opera houses; 2 orphan asylums; 5 organs; 5 oyster houses; 436 offices; 5 photographers; 5 plaster and stucco workers; 4 plumbers; 5 police stations; 11 printing establishments; 9 provision curers and packers; 7 railroads; 1 reading room; 33 restaurants; 1 roofer. *Saloons*.—4 billiard; 3 bowling; 5 ice cream; 11 lager beer; 8 oyster. *Schools*.—1 boarding; 10 private; 27 public; 1 reform.—*Shops*.—21 barber; 6 blacksmith; 8 carpenter; 3 cooper; 1 junk; 6 paint; 1 painter; 5 shoemaker; 20 tailor; 5 tinman. *Stables*.—6 hack; 37 livery; 158 private; 2 sale; 51 work. 12 steam-boats; 13 steamships; 5 steam and gas pipe fitters. *Stores*.—1 agricultural implements; 30 apothecary; 1 auction; 4 book; 22 boot and shoe; 1 carpet; 1 carriage trimmings; 10 cigar; 16 clothing; 7 confectionery; 2 drug; 20 dry goods; 73 fancy goods; 7 flour and grain; 11 fruit; 8 furniture; 6 gents' furnishing goods; 80 grocery, retail; 14 grocery wholesale; 6 hardware; 2 hide and leather; 2 hoopskirt; 10 house furnishing goods; 2 house paper; 3 iron and steel; 9 jewelry; 10 liquor; 1 lime and brick; 2 manufacturers' supplies; 13 millinery; 8 newspaper; 3 oil and paint; 2 paper and paper stock; 6 produce, wholesale; 3 sewing machines; 3 stationery; 2 stove; 3 tea; 2 trunk; 1 umbrella; 1 wool; 2 woolen goods; 15 not classed. 1 store house; 2 undertakers; 1 United States Custom House building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 3 wood yards.

The amount of expenditures during the last two months, is . . . \$118,451 09
 The total amount of expenditures, is . . . 3,201,512 64
 The total amount of appropriations, is . . . 3,400,000 00
 The unexpended balance, is . . . 198,487 36
 The amount received during the last two months, all of which has been paid to the City Treasurer, is

For water supplies, . . .	\$73,035.66	
For water meters, . . .	2,876.50	
For penalties, . . .	64.00	
For sundries, . . .	10,929.45	
	<hr/>	\$86,905 61
The amount received for water in 1872, was		41,003 51
The amount received for water in 1873, was		97,386 09
The amount received for water during the		
first two months of 1874, is . . .		73,035 66
The total amount received for water to date is,		211,425 26
The amount of all receipts to date, is		324,716 34

The Commissioners see no reason why any additional appropriation will be needed during the quarter next ensuing.

A schedule of bills approved during the last two months, and of receipts during the same time, and a trial balance of ledger, February 28, 1874, are hereunto appended, and made parts of this report.

A separate report of that portion of the duties of the Water Commissioners which relates to sewers, is presented herewith.

The undersigned, were elected 27th February instant, a Board of Water Commissioners, for the term of one year, from March 1, 1874, and until their successors are elected and qualified to act, unless an election of a Board of Public Works shall be sooner made; and have taken the oath of office.

JOSEPH J. COOKE,	} <i>Water</i>
CHAS. E. CARPENTER,	
WILLIAM CORLISS,	

Commissioners.

SCHEDULE OF BILLS APPROVED BY THE WATER COMMISSIONERS, FROM JANUARY 1, 1874, TO FEBRUARY 28, 1874, INCLUSIVE.

3930	Schooner Grace Cushing, freight of cast iron water pipes, (charged to Warren Foundry and Machine Co.,)	-	\$494 42
3931	Charles H. Parkhurst, counsel fees, -	-	400 00
3932	Calvin C. Campbell, rubble stone, -	-	1,035 00
3933	Lobdell & Newmans, on account for construction of Hope Reservoir, -	-	2,400 00
3934	Samuel M. Gray, paid by him for labor at Pettaconset, -	-	3,137 72
3935	Lobdell & Newmans, tools and extra labor at Hope Pumping Station, -	-	692 20
3936	Lobdell & Newmans, tools and extra labor at Hope Pumping Station, -	-	83 70
3937	Providence Gas Co., gas at Hope Engine House, -	-	250 70
3938	Earl Carpenter & Sons, ice, -	-	39 06
3939	Henry T. Root, feather duster, -	-	5 50
3940	Charles Warren Campbell, carting rubble stone, -	-	305 32
3941	Salisbury & Kinnecom, use of derrick, -	-	81 20
3942	W. N. Landerskin, labor, &c., at Pettaconset, -	-	228 96
3943	Freeborn & Crowell, " " Hope Engine House, -	-	138 06
3944	P. A. Conley, carting rubble stone, -	-	175 92
3945	Daniel F. Burlingame, repairing tools, &c., -	-	55 87
3946	Dexter Gorton & Co., carpenters' work, lumber, &c., -	-	862 14
3947	George B. & Willard F. Inman, laying water pipes, -	-	74 06
3948	" " " setting fire-hydrants, repairing streets, &c., -	-	193 18
3949	Samuel M. Gray, paid by him for labor at Hope Pumping Station, -	-	176 05
3950	George B. & Willard F. Inman, on account of reservation, -	-	1,500 00
3951	Schooner Fashion, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	205 72
3952	G. B. & W. F. Inman, on account of reservation, -	-	500 00
3953	Warren Foundry and Machine Co., cast iron water pipes, -	-	17,468 12
3954	Schooner Joseph Marsh, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	306 36
3955	Fuller Iron Works, special castings, -	-	889 04
3956	Builders' Iron Foundry, " " &c., -	-	93 70
3957	Hopkins & Pomroy, coal, cement, and carting brick, -	-	2,688 72
3958	Wood & Winsor, pipes, elbows, tees, labor, &c., -	-	47 54
3959	Thomas Phillips & Co., on account of tin lined lead pipe, laying service pipe, &c., -	-	525 00
3960	A. W. Page, tallow, -	-	44 12
3961	Olney Brothers, oil, -	-	90 07
3962	J. M. Schmid & Sons, repairing instruments, -	-	8 25
Amount carried forward, -			\$35,195 70

	Amount brought forward	-	-	-	\$35,195 70
3963	G. & S. Owen, repairing meter,	-	-	-	3 20
3964	W. A. Burdick, agent, granite,	-	-	-	1,944 00
3965	Manchester Bros., photographs,	-	-	-	136 75
3966	Wm. H. Miller & Co., tools, &c.,	-	-	-	21 87
3967	Barker, Whitaker & Co., tools, instruments, &c.,	-	-	-	471 65
3968	Fales, Jencks & Sons, fire hydrants, hydrant boxes, water gates, &c.,	-	-	-	6,125 35
3969	W. A. Burdick, agent, granite for engine house at Pettaconset,	-	-	-	3,675 00
3970	W. A. Burdick, agent, granite for Hope Engine House, retaining walls,	-	-	-	1,353 99
3971	Samuel M. Gray, on account for paying labor at Pettaconset,	-	-	-	200 00
3972	Thomas Phillips & Co., laying service pipes,	-	-	-	228 86
3973	" " " " " "	-	-	-	183 91
3974	Schooner Brandywine, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	112 85
3975	Schooner Cynthia Jane, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	49 23
3976	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
3977	Samuel M. Gray, " " "	-	-	-	335 00
3978	Charles H. Swan, " " "	-	-	-	166 67
3979	Otis F. Clapp, " " "	-	-	-	208 33
3980	Howard A. Carson, " " "	-	-	-	208 33
3981	William T. Schneider, " " "	-	-	-	100 00
3982	C. Frank Allen, " " "	-	-	-	125 00
3983	John E. Bowen, " " "	-	-	-	100 00
3984	Lucius J. Sampson, " " "	-	-	-	83 33
3985	George H. Slade, " " "	-	-	-	83 33
3986	Daniel D. Waterman, " " "	-	-	-	66 67
3987	George F. Munro, " " "	-	-	-	83 33
3988	Leprilete Sweet, 2d, " " "	-	-	-	83 33
3989	Charles F. Janes, " service pipe engineer,	-	-	-	100 00
3990	Augustus F. Nagle, " mechanical " "	-	-	-	200 00
3991	Henry N. Francis, " student, engineering department,	-	-	-	41 67
3992	Edmund B. Weston, " " " "	-	-	-	41 67
3993	Walter R. Jackson, " " " "	-	-	-	33 33
3994	Edwin P. Dawley, " " " "	-	-	-	33 33
3995	Charles M. Hunt, " " " "	-	-	-	25 00
3996	Frank B. Ferris, " " " "	-	-	-	25 00
3997	Thomas L. Botts, " " " "	-	-	-	25 00
3998	William H. Olmstead, " " " "	-	-	-	25 00
3999	William M. Brown, Jr., " " " "	-	-	-	33 33
4000	Daniel C. Stone, " " " "	-	-	-	33 33
4001	Walter F. Slade, " service pipe clerk, engineering dep't,	-	-	-	83 33
4002	William Aplin, " clerk, engineering department,	-	-	-	83 33
4003	William H. Turner, salary as clerk, engineering department,	-	-	-	100 00
4004	Irving H. Potter, " temporary office assistant, engineering department,	-	-	-	8 10
4005	Andrew B. Purdy, salary as superintendent of pipe work,	-	-	-	166 67
	Amount carried forward	-	-	-	\$52,653 77

Amount brought forward,				\$52,653 77
4006	William H. Patterson,	salary as inspector on pipe line,	-	8 00
4007	S. Horace Wheeler,	" " " of service pipes,	-	125 00
4008	Samuel R. Eccleston,	" " " of pipes,	-	135 00
4009	Foster S. Dennis, Jr.	" " " " "	-	84 00
4010	Frederic A. Arnold,	" " " " water fixtures,	-	83 33
4011	Burrows Chace,	" " " at Hope Reser-	-	
	voir,	-	-	115 00
4012	Joseph P. Healy,	salary as inspector on blow-off connection,	-	12 00
4013	Henry G. Dennis	" " superintendent of pipe yard,	-	125 00
4014	Richard M. Wood,	" " clerk at pipe yard,	-	66 67
4015	Jephtha Baker,	" " keeper of Sockanosset Reser-	-	
	voir,	-	-	77 50
4016	George F. Battey,	salary as pumping engineer,	-	100 00
4017	John Hamilton,	" " fireman,	-	80 00
4018	George F. Barney,	" " " "	-	60 00
4019	George H. DeForest,	" " time keeper, &c., at Hope Reser-	-	
	voir,	-	-	87 30
4020	William F. Tanner,	salary as axeman, &c.,	-	58 60
4021	John Murphy,	" " " "	-	44 70
4022	Leonard N. Austin, Jr.,	salary as commissioners' clerk,	-	66 67
4023	Thomas O. Gushee,	" " " "	-	83 33
4024	Philip S. Chase,	" " " "	-	125 00
4025	Clinton D. Sewell,	" " secretary of water com-	-	
	missioners,	-	-	200 00
4026	George F. Johnson,	care of rooms,	-	57 90
4027	Charles H. Pierce,	paid by him for sundries,	-	47 17
4028	" " " " " " " labor at wharf, &c.,	-	-	600 00
4029	Samuel M. Gray,	horse hire and paid by him for sundries,	-	211 98
4030	Bugbee & Hall,	tracing cloth and drawing paper,	-	43 45
4031	William S. Briggs,	horse hire by committee to test engines,	-	45 00
4032	M. D. Copeland,	teaming,	-	33 00
4033	" " " " " " " "	-	-	54 38
4034	William Elsbree,	repairing streets, &c., (charged to Thomas	-	
	Phillips & Co., \$57.11.)	-	-	70 46
4035	Stephen Knobb,	carting granite, &c.,	-	16 23
4036	W. J. Glover,	felt,	-	12 96
4037	National Rubber Co.,	labor on valves,	-	5 50
4038	Ten Broeck & Riley,	felt,	-	42 00
4039	A. C. Eddy & Studleys,	packing,	-	19 81
4040	G. & C. P. Hutchins,	gas fixtures, &c.,	-	14 35
4041	W. Congdon & Sons,	cabin hooks and cold chisels,	-	5 25
4042	Charles F. Pope,	wad cutters,	-	5 78
4043	N. Webber,	rubber boots,	-	31 50
4044	Providence and Newport Lead Works,	lead,	-	40 92
4045	Boston Machine Co.,	water gate,	-	425 00
4046	New England Butt Co.,	labor on patterns for drinking foun-	-	
	tains, &c.,	-	-	12 15
4047	Charles H. Bradley & Co.,	matting,	-	17 78
4048	John W. Mathewson & Co.,	granite,	-	3,442 96
Amount carried forward,				\$59,646 40

	Amount brought forward,	-	-	-	\$59,646 40
4049	Union Water Meter Co., water meters,	-	-	-	1,775 85
4050	L. H. Humphreys, board, &c., of committees to test pumping engine, (one-half to be charged to George H. Corliss,)	-	-	-	581 55
4051	Thomas J. Hill, rent of wharf,	-	-	-	500 00
4052	Alva Carpenter, service plugs,	-	-	-	68 21
4053	William Whitaker, testing cement,	-	-	-	54 84
4054	Thomas R. Belcher, " " "	-	-	-	12 90
4055	Albert E. Fuller, " " "	-	-	-	16 00
4056	Lobdell & Newmans, on account of construction of Hope Reservoir,	-	-	-	4,350 00
4057	W. A. Burdick, Agent, granite,	-	-	-	1,890 00
4058	" " " " " " " " " "	-	-	-	5,225 00
4059	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	-	2,462 23
4060	" " " " " " " " " " Hope Pumping Station,	-	-	-	126 48
4061	Lobdell & Newmans, extra labor, &c.,	-	-	-	88 60
4062	Hopkins & Pomroy, coal, cement and stone,	-	-	-	1,748 43
4063	Wm. H. Miller & Co., repairing tools, &c.,	-	-	-	47 64
4064	Charles Warren Campbell, carting rubble stone,	-	-	-	391 27
4065	Hopkins & Pomroy, coal, &c.,	-	-	-	13 70
4066	A. J. Magoon & Co., use of stoves by committee to test pumping engines, (one-half to be charged to George H. Corliss,)	-	-	-	10 00
4067	F. Olds, adjusting and sealing scales,	-	-	-	7 50
4068	Proprietors of Locks and Canals on Merrimack River, time and expenses of assistants, testing pumping engines, one-half to be charged to George H. Corliss,)	-	-	-	303 57
4069	Schooner Fashion, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	193 53
4070	Fuller Iron Works, special castings,	-	-	-	850 30
4071	Builders' Iron Foundry, " " "	-	-	-	176 40
4072	Daniel H. McCarty, damage,	-	-	-	20 00
4073	Warren Foundry and Machine Co., cast iron water pipes,	-	-	-	17,694 46
4074	Samuel M. Gray, on account of payment for labor at Pettaconset,	-	-	-	200 00
4075	T. & W. Breck, rent of offices, &c.,	-	-	-	752 50
4076	Hopkins & Sears, board &c., of assistants testing pumping engines, (one-half to be charged to George H. Corliss,)	-	-	-	407 50
4077	Thomas Phillips & Co., laying service pipes,	-	-	-	54 95
4078	Schooner Brazos, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	-	254 79
4079	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
4080	Samuel M. Gray, " " " " &c.,	-	-	-	335 00
4081	Charles H. Swan, " " " " "	-	-	-	166 67
4082	Otis F. Clapp, " " " " "	-	-	-	208 33
4083	Howard A. Carson, " " " " "	-	-	-	208 33
4084	William T. Schneider, salary as assistant engineer,	-	-	-	100 00
4085	C. Frank Allen, " " " " "	-	-	-	125 00
4086	John E. Bowen, " " " " "	-	-	-	100 00
	Amount carried forward,	-	-	-	\$101,418 13

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,		-	-	-	\$101,418 13
4087	Lucius J. Sampson,	salary as assistant engineer,	-	83 33	
4088	George H. Slade,	" " " "	-	83 33	
4089	Daniel D. Waterman,	" " " "	-	66 67	
4090	George F. Munro,	" " " "	-	83 33	
4091	Leprileta Sweet, 2d,	" " " "	-	83 33	
4092	Charles F. Janes,	" " service pipe engineer,	-	100 00	
4093	Augustus F. Nagle,	" " mechanical "	-	200 00	
4094	Henry N. Francis,	" " student, engineering department,	-	41 67	
4095	Edmund B. Weston,	salary as student, engineering department,	-	41 67	
4096	Walter B. Jackson,	salary as student, engineering department,	-	33 33	
4097	Edwin P. Dawley,	salary as student engineering department,	-	33 33	
4098	Charles M. Hunt,	" " " "	-	25 00	
4099	Frank B. Ferris,	" " " "	-	25 00	
4100	Thomas L. Botts,	" " " "	-	25 00	
4101	Wm. H. Olmstead,	" " " "	-	25 00	
4102	Wm. M. Brown, Jr.,	" " " "	-	41 67	
4103	Daniel C. Stone,	" " " "	-	33 33	
4104	Walter F. Slade,	" " service pipe clerk, engineering department,	-	83 33	
4105	William Apfin,	salary as clerk, engineering department,	-	83 33	
4106	William H. Turner,	" " " "	-	100 00	
4107	Andrew B. Purdy,	" " superintendent of pipe work,	-	166 67	
4108	S. Horace Wheeler,	" " inspector of service pipes,	-	125 00	
4109	Henry M. Wilcox,	" " assistant inspector of service pipes,	-	12 00	
4110	Samuel R. Eccleston,	salary as inspector of pipes,	-	120 00	
4111	Foster S. Dennis, Jr.,	" " " "	-	96 00	
4112	Frederic A. Arnold,	" " " " water fixtures,	-	83 33	
4113	Burrows Chace,	" " " " at Hope Reservoir, &c.,	-	143 00	
4114	Henry G. Dennis,	" " superintendent of pipe yard,	-	125 00	
4115	Richard M. Wood,	" " clerk at " "	-	66 67	
4116	Jeptha Baker,	salary as keeper of Sockanosset Reservoir,	-	77 50	
4117	George F. Battey,	salary as pumping engineer,	-	100 00	
4118	John Hamilton,	" " fireman,	-	80 00	
4119	George F. Barney,	" " " "	-	60 00	
4120	George H. DeForest,	salary as time keeper, &c.,	-	85 80	
4121	William F. Tanner,	" " axeman,	-	48 60	
4122	Leonard N. Austin, Jr.,	" " commissioners' clerk,	-	66 67	
4123	Thomas C. Gushee,	" " " "	-	83 33	
4124	Philip S. Chase,	" " " "	-	125 00	
4125	Clinton D. Sellow,	" " secretary of water commissioners,	-	200 00	
4126	Joseph J. Cooke,	salary as water commissioner,	-	333 33	
4127	Charles E. Carpenter,	salary as water commissioner,	-	333 33	
4128	William Corliss,	" " " "	-	333 33	
4129	George F. Johnson,	care of rooms,	-	52 56	
Amount carried forward,		-	-	-	\$103,626 90

RECEIVED FROM JANUARY 1, 1874, TO FEBRUARY 28, 1874, IN-
CLUSIVE, AND PAID TO THE CITY TREASURER.

1874.

January 1.	Of Builders' Iron Foundry, for labor and materials, -	\$232 92
"	3. Of Stafford & Co., for six months' rent of Pawtuxet Mill, to January 1, 1874, -	400 00
"	8. Of C. B. Sawyer, for repairing sidewalk over service pipe, -	1 25
"	8. Of Providence Gas Co., for labor and materials, -	1,093 09
"	12. John Godfrey, for three months' rent of farm in Warwick, purchased of Miss Patience W. Chace, to April 8, 1874, -	43 75
"	15. Of Alfred Mundell, for valve covers, &c., -	19 37
"	15. Of Samuel M. Gray, for sundries, -	7 50
"	15. Of H. B. Leach & Sons, for repairing service pipes, -	5 04
"	20. Of P. & J. Tierney, for repairing sidewalk over service pipe, -	65
"	23. Of City of Providence, for sewer expenses, -	2,928 26
"	23. Of Providence & Worcester Railroad Co., for labor and materials, -	123 17
"	26. Of Oren A. Ballou, for labor and materials, -	238 74
"	29. Of Town of Cranston, for work on Reservoir avenue, -	5,000 00
February 7.	Of Olney Brothers, for error in payment of bill, -	76 27
"	16. Of Henry W. Wilkinson, for labor and materials, -	184 43
"	18. Of Fuller Iron Works, for old iron, -	272 80
"	25. Of Francis McGrath, for repairing water pipe, -	4 96
"	26. Of City of Providence, for sewer expenses, -	164 50
"	28. Of Greenwich Print Works, for cast iron water pipe, -	126 75
	For stops permanently closed during the two months, -	6 00
	For water during the two months, -	73,035 66
	For meters " " -	2,876 50
	For penalties " " -	64 00
		<hr/>
		\$86,905 61

TRIAL BALANCE OF LEDGER, FEBRUARY 28, 1874.

	Dr.	
Hope Reservoir, for land,	.	\$124,122 80
" " sundries,	.	748 28
" " labor,	.	1,569 63
" " gate chambers,	.	3,745 53
" " drain,	.	404 03
" " inspection,	.	2,356 89
" " conduit,	.	2,498 00
" " slope wall,	.	155 06
" engine house,	.	101,664 81
" " for lights,	.	209 58
" pumping station, for coal and wood,	.	1,047 46
" " sundries,	.	371 46
Night and Sunday watch at Hope engine house,	.	41 23
Sockanosset Reservoir, for construction,	.	177,870 72
" " sundries,	.	4,088 48
" " land,	.	16,074 35
" " watch,	.	1,964 25
" " gate houses,	.	18,585 57
" " drain,	.	2,429 30
" " inspection,	.	6,819 18
" " extra work and materials,	.	189 70
" " gate chambers,	.	19,399 37
Line of leading mains, for labor and materials,	.	19,808 53
" " " " extra trenching, etc.,	.	305 95
" " " " land and damages,	.	1,665 00
Force main line, for land and damages,	.	3,006 35
" " " " labor and materials,	.	5,099 28
" " " " extra trenching, etc.,	.	833 56
Office furniture, stoves, gas fixtures, etc.,	.	1,313 31
Rent of offices,	.	3,450 00
Books, stationery, etc.,	.	841 45
Fuel and lights,	.	255 55
Horse-hire by commissioners,	.	19 00
Janitor of rooms,	.	589 00
Traveling expenses of commissioners,	.	132 63
Clerks' salaries,	.	6,359 51
Commissioners' salaries,	.	26,708 78
Secretary's salary,	.	3,766 71
Sundries,	.	461 88
Printing,	.	2,042 57
Advertising,	.	1,684 68
Fences,	.	2,050 38
Stop valves,	.	58,311 72
Store house and work shop,	.	1,307 33
Rent of wharves and pipe yards,	.	4,290 94
Linking curved pipes,	.	292 75
Tools,	.	8,742 38
Amount carried forward,	.	\$638,745 53

REPORT OF THE WATER COMMISSIONERS.

21

Amount brought forward,	\$638,745 58
Labor on pipes,	14,569 34
Cast iron water pipes,	1,072,068 12
Special castings,	85,098 97
Lumber,	1,455 71
Fire hydrants,	93,153 27
Sockanosset hill cross road,	3,855 38
Pettaconset and Sockanosset telegraph line,	1,758 01
Dwelling houses at Pettaconset,	9,547 96
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,557 93
Real estate in Warwick,	13,118 04
Water privileges, mill and other real estate in Pawtuxet,	50,231 96
Pochasset bridge,	5,559 83
Wharf salaries,	6,733 78
Temporary engine house at Pettaconset,	9,354 69
Roads, slopes, etc., at Pettaconset,	11,454 33
Engine house at Pettaconset,	140,428 09
Natural filter basin,	33,794 50
Removing loam,	463 95
Iron screw piles,	3,786 46
Hydrant bolts,	1,494 29
Pipe bolts,	1,496 45
Photographs,	284 25
Hydrant heads,	7,448 00
Taps and stops,	13,898 34
Valve covers,	7,412 26
Service pipe,	25,144 82
Hydrant boxes,	26,197 41
Setting fire hydrants,	9,199 84
Valve boxes,	26,404 97
Check valves,	1,413 48
Air cocks, boxes, covers and setting,	500 05
Night and Sunday watch at engine house,	1,355 60
Pettaconsett Pumping station, for sundries,	2,948 17
“ “ engineer,	3,398 28
“ “ coal and wood,	21,918 66
“ “ labor on fuel,	1,318 85
“ “ firemen,	3,397 08
“ “ land,	26,386 17
Setting blow-offs,	296 66
Ascertaining and removing nuisances on Pawtuxet river,	479 46
Providence Steam and Gas Pipe Co.,	2 00
Rhode Island Concrete Co.,	150 00
Henry R. Worthington,	18 49
Lobbell & Newmans,	50,400 00
A. & W. Sprague Manufacturing Co.,	2,500 00
Thomas Phillips & Co.,	5,075 00
City of Providence, fountain, Abbott Park,	707 07
Fall River Iron Works Co.,	1 60
David Cady & Co.,	2 37
City of Providence, Sewer Department,	8,581 25
Samuel M. Gray,	200 00
W. A. Burdick, Agent,	27,600 19
Thomas Pearson,	136 79
Amount carried forward,	\$3,482,723 25

Amount brought forward,	\$2,488,728 35
Daniel Holmes,	8 66
Union Water Meter Co.,	30 68
Albert Weaver,	1 50
M. J. Higgins,	50
City Treasurer,	118,291 08
" " for water payments,	211,425 26
Testing pipe iron,	443 50
Iron drain pipes and gate,	224 21
Carting pipes,	29,545 51
Counsel fees,	4,600 00
Inspection of pipes,	8,416 61
Inspection of water fixtures,	1,998 78
Testing bolts and composition castings,	34 25
Laying water pipes,	330,931 67
Laying service pipes,	22,285 22
Laying suction pipe, etc.,	85 00
Drainage pump and engine,	4,950 06
Hydrants for street sprinklers,	1,928 63
Inspection of pipe laying,	22,371 90
Temporary boarding house at Pettaconset,	1,240 04
Public drinking fountains and troughs,	709 12
Expense of testing engines,	2,575 21
Water meters,	37,735 61
Water meters set, belonging to the city,	644 00
Worthington Pumping Engine,	39,048 80
Miller boilers at Pettaconset,	98 34
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	\$3,318,317 99

ENGINEERING DEPARTMENT.—

For instruments,	\$2,784 35
Tools,	665 25
Furniture, stoves, gas fixtures, etc.,	2,469 48
Books, stationery, etc.,	2,558 26
Draughting,	3,323 52
Labor,	5,227 25
Horse and wagon account,	1,488 72
Horse keeping, shoeing, etc.,	1,346 70
Horse hire,	3,470 40
Rent of offices,	6,290 61
Fuel and lights,	635 06
Janitor of rooms,	1,191 04
Experimental filter,	91 08
Sundries,	2,355 87
Test wells,	1,579 40
Consultations,	827 08
Office Building at Pettaconset,	558 21
" " " Sockanosset Reservoir,	563 22
Stakes and strips,	704 21
Printing,	418 96
Maps,	86 67
Service pipe experiments,	295 76
Temporary assistance,	6,943 07
Salaries,	107,133 26
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Amount carried forward,	153,186 23
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	\$3,471,554 22

REPORT OF THE WATER COMMISSIONERS.

23

Amount brought forward, . . . \$3,471,354 22

CR.

Hope Reservoir, for land, (rents received and buildings, etc., sold,)	\$5,883 28	
Sockanosset Reservoir, for land, (rents received and wood, etc., sold,)	1,584 49	
Real estate in Warwick, (rents received,)	975 00	
Pettaconset Pumping Station, for land, (rents received,)	487 39	
Water privileges, mill and other real estate in Pawtuxet, (rents received,)	3,339 58	
J. B. & J. M. Cornell,	1,000 00	
Warren Foundry and Machine Co.,	4,001 68	
G. B. & W. F. Inman,	2,500 00	
Interest,	54 66	
Boston hydrants,	28 39	
Water meters,	38,466 00	
Penalties,	146 00	
Water,	211,495 26	
Approved bills,	3,301,513 64	
		\$3,471,354 22

REPORT OF COMMITTEE TO TEST PUMPING ENGINES.

JOSEPH J. COOKE,
CHARLES E. CARPENTER, } *Water Commissioners, Providence, R. I.*
WILLIAM CORLISS,

GENTLEMEN:—The undersigned committee, appointed under the conditions named in a certain agreement made by your board, with Mr. George H. Corliss, for furnishing and erecting a pumping engine and appurtenances, for use at "Hope Station," to supply the high service of the city, have concluded the necessary investigations and tests of the engine referred to, also the one situate at Pettaconset, and beg leave to make the following report of the facts obtained by their labors, and the conclusions which they deduce therefrom:

Your committee were very much embarrassed by the difficulty of making close, accurate comparisons of the two engines to be tested.

They are totally different in design, construction and situation; were built for, and are now performing, entirely dissimilar daily work.

The Hope Engine is designed for the performance of a peculiar and special duty, namely: supplying an almost constantly varying demand for water, which demand has to be met by pumping directly into the distributing mains of the city without the intervention of either reservoir or stand-pipe.

The call upon it may be increased at a few minutes notice, from its minimum capacity and rate of speed, to the maximum of its power and velocity.

This engine receives its supply through the mains of the low service, the water reaching the pumps under a head or back pressure on the suction side varying within the limits of about forty feet.

The height to which the water is raised averages about eighty-eight feet.

The Pettaconset Engine was designed for, and is now employed, raising the water into a reservoir, about one hundred and eighty feet above average surface of the water in the river.

Its speed is not required to be variable, and has, therefore, no adjustable arrangements to adapt it to such changeable conditions as exist at the Hope Engine; it is usually raising, as nearly as possible, at the rate of five million gallons per day, of 24 hours; it has to draw the supply of water through a suction pipe, of considerable length, to a vertical height of about fifteen and one-half feet.

From this it will be seen in what essential particulars the circumstances differ, and how very unlike the duty to be performed. It appeared from your view of the case and the opinion of the builder of the Hope Engine, that the intention of the agreement was, that in making the comparative tests of the two engines, the Pettaconset Engine should be brought as nearly as possible to the average capacity of the Hope Engine, both in regard to the height to which the water was raised and the quantity to be lifted daily.

This latter is assumed by the construction put upon the agreement to be two million gallons in twenty-four hours.

Your committee, recognizing the serious nature of these discrepancies, anxious to make the investigations as nearly identical as possible, proceeded with the tests in the manner detailed below:—

The ascending mains in both cases were cut off and capped at a point just beyond the nearest branch pipe, through which the water lifted by the pumps was discharged over a notch weir, care being taken that no water could flow over the weir, except what had passed through the pumps—the discharge at the branch being so regulated by the adjustment of a stop gate placed upon it, that the head pressure against the pumps represented the height to which the water was to be raised per agreement, the same gate serving to keep the quantity discharged per day within the prescribed limits.

The tests were continued for forty-eight consecutive hours, for the purpose of reducing any possible error in estimating the condition of the fires at the commencement and termination of the tests, to a minimum, or rather dividing such error, if any existed, over as long an interval of time as convenient.

The water discharged by the pumps over the weir, was estimated from the observations of the depth flowing over it; these were made by Col. James Francis and Mr. Wm. S. Southworth, gentlemen who have had much experience in this method of measuring the flow of water. They were made at very short intervals, and the results accurately calculated, by the well-known formula of Mr. James B. Francis, of Lowell, now universally acknowledged to be the most reliable in use. The weir observations were made for twenty-four hours only, in each case, that being considered long enough to obtain the desired results. All the pressure gauges upon the boilers, engines and pumps, were tested with care both before and after the trials, by a standard gauge and test pump. (kindly loaned us, by the American Steam Gauge Company,) and their error, if any, corrected, upon the readings of the gauges employed.

The scales used for weighing the coal, were examined and sealed by the "Sealer of weights and measures," at the commencement of the tests, and they were also frequently tried during the run by weights left us for the purpose.

REPORT OF COMMITTEE TO TEST PUMPING ENGINES. iii

The pump heads were removed and the pistons and plungers accurately measured.

In order that the coal used for both engines should be as nearly as possible similar in quality and size, alternate loads were taken from the same coal bin, at the yard of the merchant supplying it, first to the Hope and then to the Pettaconset Station; which coal was carefully kept separate from any other at the works, and used exclusively during the tests.

The coal was not selected for any supposed superior quality, and was consumed just as it came from the yard, without screening, picking or other special preparation.

The engines and boilers, in both cases, were taken just as they were found, without any cleaning or other preparation, both being in actual use, supplying the city with water, up to the time that their respective mains were cut and the tests started.

For reasons not necessary to mention here, no measurement was made of the feed water supplied to the boilers, consequently their evaporative power was not obtained.

The method of conducting the tests was as follows: The engines were run until the boilers required fuel, the depth of coal upon the grates was then measured, the intensity of the fires carefully observed, the water level in the glass tubes upon the boiler measured and the test then begun; when terminated, the fires had reached about the same depth and activity as at the start, and the water in the boilers about the same level as at the commencement.

During the tests the indications of pressure upon all the steam and water gauges employed, were noted every half hour; the number of strokes ascertained from the engine counter were frequently confirmed by actual counting.

All the observations were made by at least two of our number jointly, and recorded in a book kept for the purpose. The duty test of the Hope Engine when running at the rate of 2,000,000 gallons per day, was commenced Thursday, January 8th, 1874, at 3 o'clock, 30 minutes, P. M., and continued until Saturday, Jan. 10, 1874, at four o'clock, P. M.

Duration of test,.....	48 hours 30 minutes.
Average height pumped,	88.2882 feet.
Average gallons raised per minute,.....	1,424.7 gallons.
Average gallons raised per hour,.....	85,482 gallons.
Total gallons raised during the run,	4,145,877 gallons.
Gallons raised at same rate per 24 hours,.....	2,051,568 gallons.
Gallons, full capacity of pump, rate per	

first 24 hours run,.....	2,064,535 gallons.
Gallons flowing over the weir, rate per first 24 hours,	1,994,992 gallons.
Per centage of lost action of pump,.....	3.36 per cent.

Gallons actually raised, making deductions for lost action of pump, rate per first 24 hours run, ..	1,982,636	gallons.
Coal consumed, per minute.....	4.02	pounds.
" " hour.....	241.2	"
Total coal consumed during the run.....	11,700	"
Ashes dropped through the grates.....	1,028	"
Gallons raised with one pound of coal, full content of the pump.....	354.4	gallons.
Actual gallons raised with one pound of coal.....	342.49	"
Cost of coal per annum, at contract price, when raising 2,000,000 gallons per 24 hours.....	\$7,352.00	
Length of stroke	30	inches.
Average revolutions per minute	10.167	"
Temperature of water at the time.....	41.0	degrees.
Weight of one gallon at that temperature.....	8.326	pounds.
Duty, calculating resistance against the pump, ascertained by pressure gauges.....	25,865,740	ft. lbs.
Duty, actual water delivered at the temperature named.....	25,176,384	ft. lbs.

The engine worked well, though with considerable noise, from lost motion, upon all the main connecting rods. At the comparatively slow motion of the run, but little shock was felt upon the pumps. At the termination of the test, a short run was attempted, in order, if possible, to obtain a weir measurement, while running at the rate of 5,000,000 gallons per twenty-four hours, before the removal of the weir to Pettaconset Station. This was, however, found impracticable, on account of the small size of the weir box, and its consequent overflow after the discharge reached the rate of about 4,000,000 gallons per day.

The test of the Pettaconset Engine was commenced Thursday, January 20, 1874, at 3 o'clock 30 minutes, P. M., and continued until the same hour, January 22, or 48 hours. The summary of this test is as follows:

Duration of test.....	48	hours.
Average height pumped.....	87.9778	feet.
Gallons raised per minute, average.....	1,383.778	gallons.
" " hour " 	83,026.68	"
Total gallons raised during the run.....	3,985,280	"
Gallons raised at same rate per 24 hours.....	1,992,640	"
" full capacity of pump, rate per first 24 hours of the run.....	2,087,394	"
Gallons flowing over the weir, rate per first 24 hours of the run.....	2,034,882	"
Per centage of lost action of pump.....	2.51	per ct.
Gallons actually raised, making deduction for lost action of pump, rate per first 24 hours.....	1,942,623	gallons.

REPORT OF COMMITTEE TO TEST PUMPING ENGINES. V

Coal consumed per minute.....	1.9569 pounds.
“ “ hour.....	117.416 “
Total coal during the run....	5,636 “
Ashes dropped through the grates....	486 “
Gallons raised with one pound of coal, full contents of the pump.....	707.11 gallons.
Actual gallons raised with one pound of coal.....	689.37 “
Cost of coal per annum, at contract price, when raising 2,000,000 gallons per 24 hours	\$3,680.00
Length of stroke.....	46.7342 inches.
Average strokes per minute.....	18.276 strokes.
Temperature of water at the time...°.....	32 degrees.
Weight of one gallon of water at that temperature.	8.3389 pounds.
Duty, calculating resistance against the pump, ascer- tained by pressure gauges.....	53,528 210 ft. lbs.
Duty, actual water delivered at the temperature named.....	50,574,955 ft. lbs.

This engine being adapted for pumping 5,000,000 gallons per day 180 ft. high, of course suffered materially, when its work was forced to conform to the Hope Engine, and the quantity reduced to 2,000,000 gallons per day, 88 ft. high.

To those familiar with the subject this must be evident, as the radiation and other causes of loss are the same (or nearly so), when pumping the limited quantity to the minimum height, as when raising the larger quantity, to the maximum lift.

Your committee are therefore satisfied that the duty performed in this case, namely, 53,528,210 feet pounds raised one foot high with one hundred pounds of coal, cannot be taken as a standard of its economic performance when working up to the capacity for which it was designed and adapted; if then tested, its duty would be of the very highest order.

The engine at Pettaconset was also run at speeds varying from the slowest, to that necessary to produce 5,000,000 gallons per day, and the reverse.

This was done by opening and shutting the stop upon the discharge branch, the intention being to simulate the effect produced by opening and closing fire hydrants, as in case of fire.

As this engine does not require any automatic adjustments while doing its ordinary work, none are provided; the regulation of the throttle valve and injection had therefore to be made by hand. The engine, however, increased and diminished its speed a number of times within the limits named, and conformed to the varying requirements made upon it promptly, smoothly and without trouble.

All the tests upon this engine were made while using but one boiler, so that its condition might to some extent approach that of Hope Sta-

tion. It may, however, be stated that the relative heating surface, when running at the rate of 5,000,000 gallons is much less than that of the Hope Engine, when working at the same capacity.

The speed of the engine and steam pressure in the boiler during this test were remarkably regular, notwithstanding the limited amount of heating surface employed, compared with the work done.

During all the tests it worked with great precision and smoothness, almost noiselessly, even at the highest rate of speed, no shock was apparent, and no expansion or contraction of the pump chamber noticeable.

The daily work of the Pettaconset Engine is to raise water 180 ft., vertical height, into a reservoir through a main 5,736 ft. long, part of 24 and part of 36 inch diameter.

The Hope Engine, owing to the peculiar work that it is called upon to perform, labors under very serious disadvantages, particularly in regard to the question of economy in consumption of fuel.

The boiler employed must be entirely capable of supplying steam freely for a capacity of 5,000,000 gallons per day, if required, as in case of extensive conflagration in the district supplied by it, or for other extraordinary demand; it is therefore too large to supply the engine with economy, when running at the rate of 2,000,000 gallons; this also applies to the steam cylinders, but more particularly is this the case, when it is supplying the present very limited quantity required for the wants of the inhabitants, namely, about 175,000 gallons per day.

The next test of the Hope Engine was to ascertain its "adaptability," (or rather, adaptation) "to the particular service required," and to test the working of the automatic appliances designed to fit it to that service. Accordingly, the Chief Engineer of the Fire Department, was instructed to give an alarm of fire at a time fixed by himself, and unknown to us, or the employees in the engine house, and then to attach hose to the fire hydrants, as though a conflagration actually existed, and subsequently, to shut them off, precisely in the manner they would be closed after a fire had been extinguished.

The engine adapted its motion to the varying conditions required.

The appliances for producing this result, while not entirely new in principle, are ingeniously contrived and carried out.

Another trial was commenced, at a later period, with the same object, and to prove its capacity to raise at the rate of 5,000,000 gallons per day, for a period of ten consecutive hours, which was entirely successful, until the mains of the low service failed to supply the full quantity of water, and the head was drawn down so low that air was admitted into the pumps.

This deficiency of water occurred at or near midnight, when it is reasonable to suppose the supply would be increased by the dimin-

REPORT OF COMMITTEE TO TEST PUMPING ENGINES. vii

ished demand made by the inhabitants, taking water from the low service—the cause is unaccountable to us.

In this trial sufficient opportunity was afforded to convince the committee, that within the limits prescribed by the agreement, the automatic apparatus is available.

Experiments were made with both engines to ascertain their capacity to pump at the rate of 5,000,000 gallons per day,—no account of fuel was taken, as it was considered the agreement only required a commercial duty test, at the average quantity of 2,000,000 gallons.

Your committee are satisfied that the engines and boilers at both stations have the necessary capacity for raising 5,000,000 gallons per day.

The noise produced on the Hope Engine by the lost motion upon the connecting rod pins, when at the highest speed, was disagreeable and excessive;—a visible expansion and contraction of the flat surface of the sides of the pumps, at each alternation of the pistons, was noticed.

The shock produced by each individual pump could be distinctly felt and counted upon the fire hydrants and stops upon the mains at considerable distance from the Engine House.

In addition to the experiments already mentioned, a duty trial was made of the Hope Engine, at its present slow rate of speed and of the Pettaconset Engine at the slowest speed it could be run, as at present constructed.

The result of these trials will be found in the following summary :

Summary of the test of the Hope Engine while running at its ordinary rate of speed, Jan. 24 to 25, 1874.

Duration of trial,	24 hours.
Average height to which the water was raised,	83.16 ft.
{ Total number of gallons raised during test,	174,747
{ Total number of gallons raised per day of 24 hours,	174,747
{ Both calculating the full content of pump as raised.	
Total coal during run,	1,427 lbs.
Total coal per 24 hours,	1,427 lbs.
Number of pounds of water raised with one pound of	
coal, full content of pump calculated,	122.44 lbs.
Duty in feet pounds, resistance against the plunger, as	
ascertained by pressure gauges,	8,487,370 ft. lbs.
Cost of coal per annum, at contract price, when	
raised 174,747 gallons per day of 24 hours,	\$5,208.58
Revolutions per minute, average,	0.866 revolutions
Lost action of pump assumed to be,	3.36 per cent.

Summary of test of Pettaconset Engine, while running at its slowest speed, Jan. 31st, 1874:

Duration of trial,.....	10 hours 15 m.
Average height to which the water was raised.....	88.223 feet.
{ Total number of gallons raised during test,.....	844,193 gals.
{ Total number of gallons raised per day,.....	805,917 “
{ Full content of pump calculated as raised.	
Total coal burned during the run,.....	705 pounds.
Total coal burned during 24 hours.....	1,426.75 pounds.
Number of pounds water raised with one pound of coal, full content pump,.....	488.21 pounds.
Duty in feet pounds per pressure gauge resistance against plunger,.....	36,878,346.
Cost of coal per annum, at contract price, raising at the rate of 174,747 gallons per day, being same quantity as Hope Engine raised	\$1,277.50
Cost of coal per annum, raising at the rate of 805,- 917 gallons per day,.....	\$2,573.25
Average strokes per minute,.....	7.91 strokes.
Average length of stroke,.....	44.332 inches.
Lost action of pump, assumed to be.....	2.51 per cent.
As this engine has to raise the water to a vertical height of between 15 and 16 ft. through a suction main of about 90 feet in length, with a foot valve at its lower end, an addition of one pound pressure has been made to compensate for friction, &c., &c., &c.	

Summary of test of Hope Engine while running at the rate of 5,000,-
000 gallons per 24 hours, Jan. 29, 1874 :

Duration of test,.....	5 hours 45 min.
Height to which the water was pumped.....	118.174 feet.
Total gallons during the run, full content of pump calculated,.....	1,123,050 galls.
Pumped at the rate, for 24 hours.....	4,687,516 “
Average revolutions per minute,.....	23.23 revolutions.

Summary of test of Pettaconset Engine while running at the rate of
5,000,000 gallons per 24 hours, Jan. 30th, 1874:

Duration of test,	5 hours.
Height to which the water was pumped,	120.290 feet.
Total gallons during the run, full content of pump calculated.....	1,097,535 galls.
Pumped at the rate for 24 hours,.....	5,268,168 “
Average strokes per minute,.....	47.49 strokes.
Average length of stroke,	47.33 inches.

Indicator cards were taken during the tests of both engines, from
the steam cylinder and pumps, for the purpose of detecting any defect-
ive action which might otherwise escape notice.

REPORT OF COMMITTEE TO TEST PUMPING ENGINES. ix

Inspection of the several summaries given in this report, will exhibit details of all the experiments made.

With regard to the cost of attendance and supplies, (except coal), immunity from accident and need of repairs, little or no essential difference appeared to exist between the engines, and consequently no comparative money value has been estimated.

Both Engines are remarkably good specimens of workmanship and with the exception already named, (the strength of the flat sides of the pump attached to the Hope Engine,) a very liberal amount of material of good quality and finish has been furnished.

Your committee consider that the contractor is entitled to receive, for the work performed, the sum stated in the agreement, namely: thirty-four thousand dollars.

Upon the question of extra compensation, your committee do not agree, as will be seen by the additional reports given below.

ERASTUS W. SMITH,
FRED'C. GRAFF,
GEO. H. REYNOLDS.

Your committee are required by the contract to fix a money value for the essential points considered. The principal of these—in our opinion—is the great range of capacity and “special adaptation” of the Hope Engine to the peculiar duty of the high service station; where, while satisfying the very small demand of the upper service district, now less than two hundred thousand gallons per twenty-four hours, it may, within a few minutes, should emergency demand it, perform the duty of a Leviathan Stationary Fire Engine and supply at the rate of five million gallons in the same time with undiminished force; in the former case the engine making, say, one-half of one revolution per minute, and in the latter, about twenty-seven; the acceleration being more than fifty times, and the automatic appliances regulating the movement of the engine at and between these great attendant variations. During the trial the Hope Engine exhibited a capability to work at the rate of only one quarter of one revolution per minute.

The duty of the Pettaconset Engine, the particular engine to which we have been limited by the contract in making our comparisons, does not require such special arrangement and adaptation, and none have been provided.

The above mentioned features of the Hope Engine we regard as possessing special merit; and we affix as our estimate of the money value thereof, the full amount of extra compensation provided for in the contract.

ERASTUS W. SMITH,
GEO. H. REYNOLDS.

I refuse to agree to any award for extra compensation, believing that the contractor has not accomplished anything valuable, that he did not bind himself to do by the terms of agreement for the fixed price named therein, and that no annual saving in any particular has been shown.

FRED'C. GRAFF.

NEW YORK, Feb. 24, 1874.



AGREEMENT WITH GEORGE H. CORLISS FOR A PUMP- ING ENGINE FOR HOPE PUMPING STATION.

This agreement, made and concluded this eighth day of February, in the year eighteen hundred and seventy-two, by and between the City of Providence, represented by its Water Commissioners, of the first part, and George H. Corliss, of the second part ;

Witnesseth : That whereas, the said party of the second part has proposed to furnish the said party of the first part, a pumping engine for the " High Service," to be located on the southerly side of Olney street, in the said City of Providence, " capable of raising, with ease, five million gallons of water in twenty-four hours, to a height in a stand pipe, of one hundred and twenty feet above low water, under a possible varying head of forty feet on the suction; to work smoothly, steadily and easily when delivering but one million gallons in twenty-four hours; with Boilers and all appurtenances complete; the Pumps, Boilers and appurtenances to be well set and put in all respects into condition for use, including transportation and cost of erection, and the attachment of the suction and force mains."

REPORT OF COMMITTEE TO TEST PUMPING ENGINES. XI

And Whereas, The said party of the second part has proposed to construct the said Pumping Engine according to his own plans and to assume the entire responsibility of its working and of its successful performance of all the peculiar requirements of the Pumping Station where it is to be located:

Now therefore, It is hereby agreed as follows, viz:—

The said party of the second part in consideration of the covenants herinafter contained, agrees to construct and to furnish to the said party of the first part, a Pumping Engine, including foundations, Boilers and appurtenances, and setting complete, in strict accordance with his proposition as aforesaid; the work to be completed and the engine exhibited in place, with steam on, in readiness to pump water, on the first day of October now next ensuing.

The party of the first part agrees to furnish reliable ground for foundations at a level not lower than six feet below the floor of the engine-house, as a base on which the foundations of the engine shall be built, and also to furnish such ground for the boilers at the level of the fire-room floor; also, to construct a suitable chimney, together with suitable flues for connecting the same with the setting of the boilers and proper enclosure for the work; also, to furnish the necessary suction and force mains to convey water to and from the engine, with their appurtenances, excluding all special castings required on account of the peculiar construction of the engine.

All to be done in such good time as will cause no delay or expense to the said party of the second part, and affording him all reasonable facility and convenience for doing his work.

It is agreed by the parties hereto, that, on or before the completion of the work hereinbefore agreed to be done, a committee of three persons, to be agreed upon by the parties, or in case of their inability to agree, to be chosen, one by each party, and the third by the two so chosen, shall make a comparative test of the value of the engine herein contracted for with that of the Duplex Pumping Engine now in operation at the Pettaconset Pumping Station, under ordinary working conditions, while delivering two million gallons in twenty four hours, including in such test the duty, cost of attendance and supplies, durability, immunity from accident and need of repairs, adaptability to the peculiar service required at the High Service Pumping Station, and such other conditions as may affect the practical value of a Pumping Engine for the service intended. The conditions and manner of conducting the test to be determined by the aforesaid committee, who shall make a full report of the same in detail, together with an estimate of the money value of each point considered.

The sum to be paid by the said party of the first part to the said party of the second part, in full compensation for the aforesaid Pumping Engines shall be thirty-four thousand dollars, provided, that it shall

appear from the report of the aforesaid committee that the said Corliss Engine is of equal practical value with the said Duplex Engine, and a further sum equal to the estimated annual saving, (if any such saving shall be reported by the committee), for ten years, without deduction for interest, provided however, that the total sum to be paid for the said Corliss Engine shall not be more than fifty-five thousand dollars, however great its value may be according to the report of the committee.

The sum determined as due shall be payable on the acceptance of the engine after the report of the committee.

It is further agreed that if it should appear from the report of the aforesaid committee, that the said Corliss Engine is inferior in value to the said Duplex Engine, then and in that case the said party of the second part shall allow his engine to remain for the use of the city, without charge, for a period not exceeding nine months, in order that time may thus be given for the substitution of another engine, after which he shall remove it at his own cost, without claim for compensation in any way for the work he has done, or for expense he has incurred.

And the said party of the second part further agrees that the said party of the first part shall have the option of the purchase from him of a second engine of the same construction, at the same price as may have been determined for the first.

It is further agreed that the charges of the committee aforesaid shall be borne equally by each party.

In witness whereof the parties to these presents have hereunto set their hands and seals, the day and year first above written.

The City of Providence, by its	{	M. B. LOCKWOOD,	[L. S.]
Water Commissioners,		CHAS. E. CARPENTER,	[L. S.]
		JOSEPH J. COOKE,	[L. S.]

GEORGE H. CORLISS, [L. S.]

Signed and sealed in presence of
WILLIAM APLIN, witness to all the
signatures.

FIRST QUARTERLY REPORT
OF THE BOARD OF
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

(Elected February 27, 1874.)

JUNE 1, 1874.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1874.

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new ex



E. D. Leavitt

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

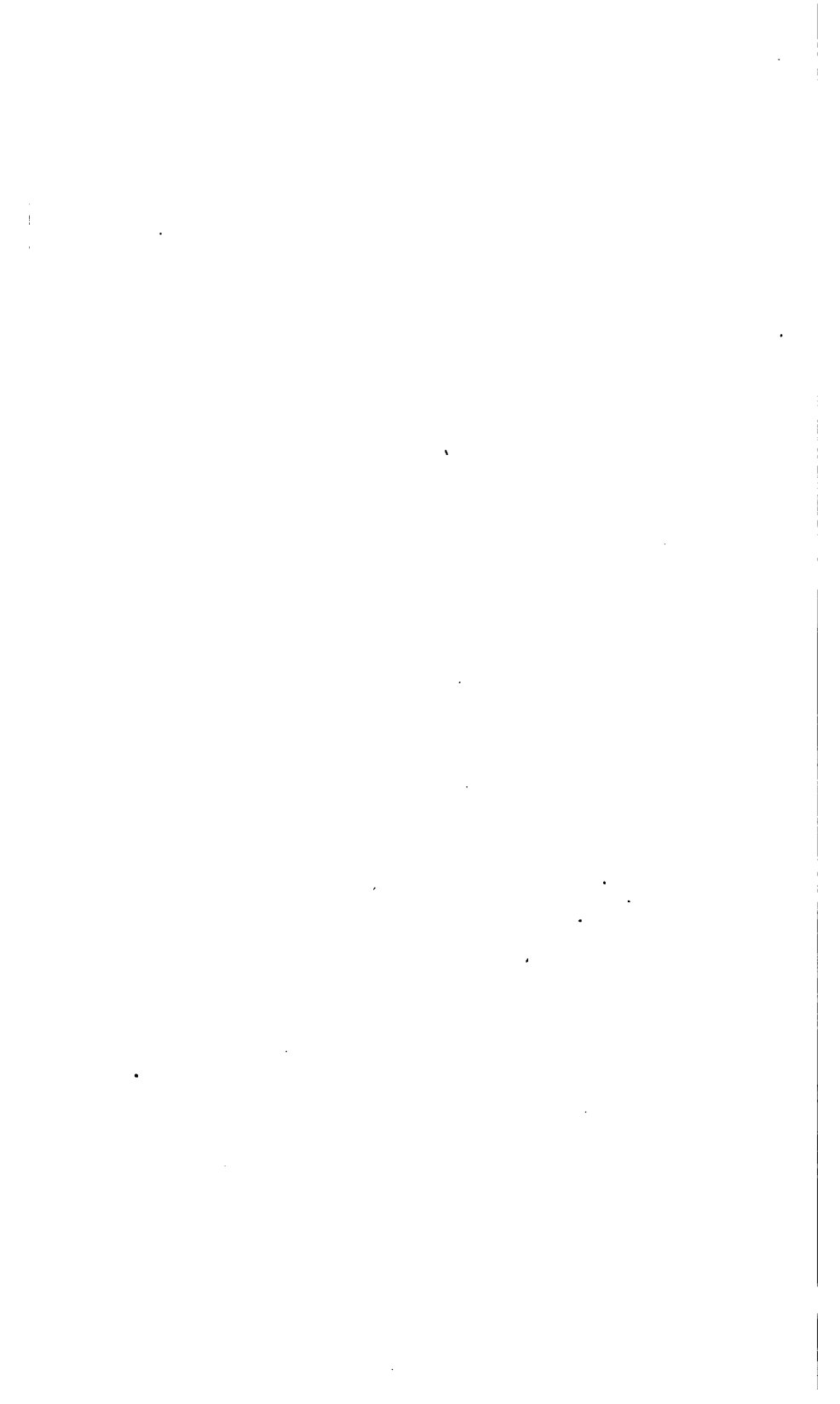
BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

CLINTON D. SELLEW.
Office No. 35 North Main street.

CHIEF ENGINEER.
J. HERBERT SHEDD.
Office No. 35 North Main street.



REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
PROVIDENCE, June 1st, 1874. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned, Water Commissioners, elected February 27th, 1874, under "An ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their First Quarterly Report:

The Commissioners, having been duly qualified by taking the oath of office, administered by His Honor the Mayor, organized on the first day of March by the election, unanimously, of Joseph J. Cooke as President. The following resolution was then adopted:

"Resolved, That all persons who were in the employment of the former Water Commissioners when the term of office of said Commissioners expired, are hereby appointed to the same positions then held by them, with the same compensation; their appointment to date from March 1, 1874."

Edmund B. Weston has been appointed Assistant Engineer, with a salary of one thousand dollars per annum, dating from March 13, 1874. Mr. Weston had served for three years as a student in the Engineering Department.

Henry N. Francis has been appointed Assistant Engineer, with a salary of one thousand dollars per annum, dating from April 3, 1874. Mr. Francis had served for three years as a student in the Engineering Department.

The salary of Thomas C. Gushee, Commissioners' clerk, has been increased to twelve hundred dollars per annum, dating from March 1, 1874.

Charles F. Janes has resigned the position of service pipe engineer. His resignation took effect March 31, 1874.

William F. Janes has been appointed service pipe engineer, with a salary of one thousand dollars per annum, dating from April 1, 1874.

The salary of Lucius J. Sampson, Assistant Engineer, has been increased to twelve hundred dollars per annum, dating from April 1, 1874.

George F. Munro, Assistant Engineer, died 23d ultimo. He was a young man of much promise.

On the 23d of March, the Commissioners advertised for proposals for furnishing 500 tons, of 2,240 pounds each, of six inch cast iron water pipes. The proposals received were opened April 2d and were all rejected. An offer made by Zechariah Chafee, of Providence, April 3d, to furnish these pipes at \$52.50 per ton was accepted, and a contract was afterwards, at his request, duly executed with the Warren Foundry and Machine Company, of Phillipsburg, N. J.

On the 28th of March, an offer, made by the Builders' Iron Foundry of Providence, to furnish 875 tons of 2,240 pounds each, of thirty-six inch cast iron water pipes, at \$50 per ton, was accepted. (Proposals for furnishing these pipes, opened in December last, had been rejected.) A contract was after-

wards, in accordance with the request of said Builders' Iron Foundry, duly executed with the Warren Foundry and Machine Company, of Phillipsburg, N. J. The quantity named in the contract is 935.72 tons.

On the 28th of March the Commissioners advertised for proposals for trenching and back-filling and laying water pipes during the present year. The proposals received were opened April 7th, and the contract was awarded to George B. and Willard F. Inman, of this city. A contract was subsequently duly executed with them.

On the 9th of April, an offer made by Paulding, Kemble & Co., ("West Point Foundry"), Cold Spring, Putnam Co., N. Y., to construct a Cornish Engine, and erect the same at Pettaconset, for the sum of \$120,000, was accepted. The specifications (printed last year) name certain "tools and fixtures," and "extra work," (including base of stand pipe,) to be furnished by the contractor. The prices named in the proposal were as follows, viz.: for the engine, \$106,000; for tools and fixtures, \$1,900; for extra work, \$12,100; total, \$120,000. On the other hand, the specifications provide that the "piston and pump rods, cross-heads, links, beam end centers and beam main centers will be furnished, in rough forging, at the contractors' works, at the expense of the commissioners." The contractors engage that the engine shall be in running order in one year from date of contract, under a penalty of thirty dollars per day. A contract, dated April 9, 1874, has been duly executed. On the 13th of April, an offer made by the same parties to furnish certain wrought iron forgings, at specified prices per pound, was accepted.

An offer of Hopkins & Pomroy, to furnish 1,500 net tons of Delaware and Hudson Canal Co's Lackawanna Coal, grate size, to be delivered as required, at Pettaconset, at \$7.45 per ton, and 400 tons same coal, stove size, delivered at Hope Pumping Station, at \$7.35 per ton, has been accepted.

An offer of the Providence and Newport Lead Works to furnish, delivered in Providence, 20,000 lbs. tin-lined lead pipe at 14.40 cents, has been accepted.

On the 19th of March a crack developed itself in the steam jacket of one of the cylinders of the Worthington engine, at Pettaconset, while doing its ordinary work. It was repaired in the course of a few days, but in a short time another crack occurred, which was also repaired, since which there has been no trouble. The casting was found, on examination, to be very imperfect, and of uneven thickness, and the Commissioners felt that it would not be prudent to rely upon it; they therefore accepted Mr. Worthington's offer to furnish a cylinder casting, bored, planed and fitted (so far as it can be fitted in advance), for \$1,250, delivered in New York.

The work of laying service pipes is now done by the Commissioners.

The foundation of the engine-house at Pettaconset has been completed. The foundation of the boiler-house is still in process of construction. The superstructure of the engine house has been commenced.

A good deal of work has been done on Hope reservoir. The reservoir, however, is not in so advanced a state as could be wished. Some three hundred and fifty men are now employed upon it.

. Appended to the last report of the Water Commissioners, (made February 28, 1874), was the report of the committee appointed to make a comparative test of the Hope and the Pettaconset Pumping Engines. On the 5th of March the Commissioners wrote a communication to the committee asking them many questions, and stating that they had not fulfilled all the duties of their appointment. The Commissioners also requested them to amend their report. A copy of this

communication was forwarded to each member of the committee, and a copy was also furnished to George H. Corliss. On the 7th of April, the individual answer of Frederic Graff was received. A reply to this communication was made by the Commissioners under date of 16th April. On the 2nd of May a reply to the Commissioners' communication of 5th March, was received from George H. Reynolds and Erastus W. Smith. This reply was dated April 24th. No reply to this has been made by the Commissioners. The above-named correspondence, as also the two subjoined communications have appeared in the newspapers. The committee have neither amended their report nor furnished the information requested.

The following is a copy of a communication from George H. Corliss :

PROVIDENCE, R. I., 16th April, 1874.

JOSEPH J. COOKE,	} <i>Water Commissioners.</i>
CHARLES E. CARPENTER,	
WILLIAM CORLISS,	

GENTLEMEN :— A period of nearly seven weeks having elapsed since you received the report of the committee provided for in my contract for the engine at Hope Pumping Station, I deem it proper that I should ask of you an official statement of your action in regard to that report.

An immediate reply will oblige,

Yours respectfully,

GEO. H. CORLISS.

The following is a copy of the Commissioners' answer :

OFFICE OF THE BOARD OF WATER COMMISSIONERS,	}
PROVIDENCE, April 17th, 1874.	

GEORGE H. CORLISS, ESQ. :

DEAR SIR :—Your communication of yesterday has been received. The Commissioners reply that, on the 5th day of

March ultimo, a communication was addressed to the committee, in which it was stated that their duties had not all been fulfilled, and requesting them to amend their report. A copy of this communication was sent to you on the same day, and its receipt has been acknowledged.

As the committee have neither amended their report nor signified their intention of doing so, it is now fair to presume that it will not be amended.

In no part of the contract are the committee authorized to award any sum as compensation to the contractor. The Commissioners deny any obligation to pay either the larger sum awarded by the majority of the committee only, or the smaller sum awarded unanimously.

The Commissioners now propose that the parties to the contract shall appoint a new committee to act under its provisions, or, if you should prefer, to submit the rights of the said parties, as far as relates to the said contract, and all action under it, to the decision of referees acting under a rule of court.

Yours respectfully,

JOSEPH J. COOKE,
CHAS. E. CARPENTER, } *Board of Water Commissioners.*

Plumbers' licenses have been issued as follows :

James E. Corcoran, Henry K. Gardner,
Robert B. Strong.

The whole number of plumbers' licenses issued is forty-five.

The following statement shows the length of pipes laid during the last quarter; the size of the pipes; where laid, and the totals since the commencement of the work :

24-INCH.

In College and Prospect streets,	.	.	810 feet
Including 1 cut pipe, and 4 curved pipes.			
Previously,	.	.	20,434 feet
Total,	.	.	21,244 feet

16-INCH.

In Branch avenue and in Orms and Smith streets,	2,587 feet.
Including 6 cut pipes, 15 branches, 2 curved pipes, and 1 gate.	
Previously,	15,688 feet.
Total,	<u>18,175 feet.</u>

8-INCH.

In Bourbon and Broad streets,	1,698 feet.
Including 8 cut pipes, 15 branches, 6 curved pipes, and 1 gate.	
Previously,	58,888 feet.
Total,	<u>60,076 feet.</u>

6-INCH.

In Ashburton, Dexter, Durfee, Howell, Paine, Ring, School, Scott, Susan, Whitmarsh and Zone streets, and in Doyle and East avenues,	6,469 feet.
Including 31 cut pipes, 16 branches, 10 curved pipes, and 17 gates.	
Previously,	312,960 feet.
Total,	<u>319,429 feet.</u>

Total of all sizes during the last quarter, . 11,509 feet,
or 2.179 miles.

Previously including 10,12, 20,30, and 36 inch, of which none have been laid during the last quarter,	494,937 feet.
Total,	<u>506,446 feet,</u> or 95.91 miles.

Seventeen fire hydrants have been set during the last quarter, one in each of the following locations :

Broad street,	north-west corner of Henry street
" "	" " Plenty "
" "	" " Lawrence street
" "	west side, in line with south side of Peace street.
Dexter "	west side, 222 feet north of Warren street.
Doyle Avenue,	north-west corner of East avenue.
East "	" east " Olney street.
" "	" " " Creighton street.
Howell street,	" west " East avenue.
Orms "	south side, 181 feet east of east line of Franklin street.
" "	south side, opposite west line of Bath street.
" "	south side, opposite east line of Zone street.
Paine street,	east side, 252 feet north of Cranston street.
School "	north-west corner of Harris avenue.
Smith "	south side, in line with west side of Winsor street.
Susan "	south side, 146 feet west of west building line of Parade street.
Whitmarsh street,	south side, about 250 feet west of Greenwich street.

The total number of fire hydrants is now seven hundred and forty-five.

One hydrant has also been set for use in filling sprinkling carts, etc. The number of such hydrants is now twenty-four, a portion of which can be used with a single line of hose for extinguishing fires.

The average daily consumption of water during the last quarter has been about 1,700,000 gallons.

The height of water in Sockanosset Reservoir at 7 o'clock this morning, was 180.05. High water in the Reservoir is 180.50 (above high tide in Providence river).

One hundred and twenty-three Ball & Fitts' water meters, made by the Union Water Meter Company, twenty-seven Worthington water meters, and ten water meters made by Fales, Jenks & Sons, have been put in at the expense of water takers since the date of the last report. One two-inch Ball & Fitts' water meter was set May 13th, and one one-inch water meter made by Fales, Jenks & Sons, was set May 26th, at the expense of the city. Two five-eighths-inch Ball & Fitts' water meters, burst by freezing, have been removed, and the parties now pay schedule rates.

There are now fourteen hundred and thirty-six water meters in use, viz. :

KIND.	SIZES.						Total.
	$\frac{5}{8}$ inch	$\frac{3}{4}$ inch	1 inch	$1\frac{1}{2}$ inch	2 inch	4 inch	
Ball & Fitts...	952	178	72	42	9	1	1,254
Worthington...	170	...	..	..	..	1	171
Fales, Jenks & Sons.....	...	...	11	..	..	..	11
	1122	178	83	42	9	2	1,436

The total number of applications for a supply of water is forty-eight hundred and six.

The number of service stops opened during the last quarter is three hundred and eighteen; three of which are for fire purposes only.

The total number of service stops opened to date is thirty-eight hundred and seventy-two.

Five stops have been closed during the last quarter for non-payment of bills, two of which have been re-opened on pay-

ment of the bills and a penalty in each case of two dollars. One stop was closed to enable the owner to set a meter; there being no stop-cock on the premises the charge of two dollars was paid at the time the request was made to have it closed; the stop has since been re-opened. Four stops previously closed by request where a charge of two dollars was paid, have been re-opened. Eight stops previously closed for non-payment have been re-opened during the last quarter, and in each case a penalty of two dollars was paid; and one stop, for reason of attendant circumstances, was re-opened without charge. Thirty-two stops closed for non-payment remain unopened.

Water is now supplied for the following uses :

7 bakeries; 30 banks; 58 bar-rooms; 1 bath house; 1 bath house—Turkish; 94 boarding houses; 6 bottling establishments; 24 building purposes; 1 car house; 3 carriage depots; 1 Christian Union; 17 churches; 1 city barn; 1 city bridge—Point street; 1 city building; 5 city drinking fountains; 14 city drinking troughs; 745 city fire hydrants; 9 city fire steamer stations; 2 city hose houses; 6 club rooms; 12 coal yards; 1 colored shelter; 1 conservatory of music; 2 convents; 1 court house; 1 decorator; 1 Dexter Asylum; 1675 dwellings of one family; 1277 dwellings of two families; 116 dwellings of three families; 129 dwellings of four families; 16 dwellings of five families; 25 dwellings of six families; 4 dwellings of seven families; 5 dwellings of eight families; 1 dwelling of twelve families; 2 dye houses; 3 elevators; 1 engine turner; 2 engravers; 1 express carriage house; 41 fire supplies—private; 43 fountains—private; 1 fountain—public; 1 furrier; 2162 garden and street hydrants; 3 gas holders; 5 gold and silver platers; 5 gold and silver refiners; 2 grain elevators; 25 green houses; 10 halls; 1 hall of Latter-Day Saints; 1 Home for Aged Women; 1 hospital; 15 hotels; 1 infirmary; 1 laundry; 1 lithographer; 3 lodging houses; 2 lumber dealers. *Manufacturing Establishments.*—2 belt and picker; 3 blank book; 2 bleacheries; 1 bologna

sausage; 1 bonnet bleachery; 1 boot and shoe; 1 box; 1 braiding works; 2 brass foundries; 1 brewery; 1 brush; 2 butt; 1 butter; 7 carriage; 2 cement pipe; 1 chain; 6 cigar; 1 cigar box; 4 cloak and dress; 1 coffin; 5 confectionery; 1 corset; 3 colorers of jewelry; 7 cotton; 1 crocus; 1 distillery; 3 die sinkers; 1 dye wood; 1 emery wheel; 1 enameler of jewelry; 1 eyelet; 2 file; 7 furniture; 1 gas; 1 gas burner; 4 gas fixtures; 1 geer; 1 hat; 2 harness; 1 horse shoe; 2 ice cream and soda water; 1 ink; 1 iron company; 1 iron fence; 8 iron foundries; 1 Japan switch; 1 jewelers' cards; 75 jewelry; 4 lapidaries; 18 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 1 paper box; 1 paper collar; 2 paper cop tube; 1 pattern; 3 patent medicine; 2 picture frame; 2 pump; 1 reed; 1 rubber tubing; 4 sash and blind; 2 screw; 1 sheet iron; 2 shirt; 3 silver ware; 5 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engines; 1 stencil plate; 1 stove; 2 tanners; 1 thread; 1 tin; 4 tool; 2 top-roll; 5 woolen goods; 1 yeast. *Markets.*—34 fish; 80 meat. *Mills.*—2 drug and grain; 3 flour and grain; 5 marble works; 1 paint; 9 planing. 1 music hall; 1 nickel plater; 3 Odd Fellows' halls; 2 opera houses; 2 orphan Asylums; 5 organs; 5 oyster houses; 456 offices; 8 photographers; 6 plaster and stucco-workers; 5 plumbers; 5 police stations; 10 printing establishments; 9 provision curers and packers; 7 railroads; 1 reading room; 36 restaurants; 1 roofer. *Saloons.*—4 billiard; 3 bowling; 5 ice cream; 11 lager beer; 9 oyster. *Schools.*—1 boarding; 12 private; 27 public; 1 reform. *Shops.*—29 barber; 6 blacksmith; 10 carpenter; 3 cooper; 1 junk; 10 paint; 5 shoemaker; 21 tailor; 5 tinman. *Stables.*—6 hack; 38 livery; 180 private; 2 sale; 53 work. 13 steamboats; 13 steamships; 5 steam and gas pipe fitters. *Stores.*—1 agricultural implements; 32 apothecary; 1 auction; 4 book; 24 boot and shoe; 1 carpet; 1 carriage trimmings; 10 cigar; 17 clothing; 7 confectionery; 2 drug; 23 dry goods; 73 fancy goods; 7 flour and grain; 11 fruit; 10 furniture; 8 gents' furnishing goods; 93 grocery—retail; 15 grocery—wholesale; 8 hardware; 2 hide and leather; 2 hoop

skirt; 10 house furnishing goods; 3 house paper; 3 iron and steel; 10 jewelry; 11 liquor; 1 lime and brick; 2 manufacturers' supplies; 14 millinery; 9 newspaper; 3 oil and paint; 2 paper and paper stock; 1 piano forte; 6 produce—wholesale; 3 sewing machine; 3 stationery; 2 stove; 3 tea; 2 trunk; 1 umbrella; 1 wool; 2 woolen goods; 15 not classed. 1 State Prison; 1 store house; 2 undertakers; 1 United States Custom House building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 3 wood yards.

The amount of expenditures during the last quarter, is	-	-	\$147,728 76
The total amount of expenditure, is	-		3,349,241 40
The total amount of appropriations, is	-		3,400,000 00
The unexpended balance, is	-		50,768 60

The amount received during the last quarter, all of which has been paid to the City Treasurer, is

For water supplies,	-	\$16,496 76	
For water meters, -		4,114 55	
For penalties, -	-	22 00	
For sundries,	-	13,597 90	
			<u>34,231 21</u>

The amount received for water in 1872, was	41,008 51
The amount received for water in 1873, was	97,386 09
The amount received for water during the first five months of 1874, is	89,532 42
The total amount received for water to date, is	227,922 02
The amount of all receipts to date, is	358,947 55

An additional appropriation will soon be needed.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of ledger, May 30, 1874, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers, will be presented.

JOSEPH J. COOKE, CHAS. E. CARPENTER, WILLIAM CORLISS,	}	<i>Board of Water Commissioners.</i>
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SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER COMMISSIONERS FROM MARCH 1, 1874, TO MAY 30, 1874, INCLUSIVE.

1	Thomas R. Belcher, testing cement,	-	-	\$21 43
2	William Whittaker, " " "	-	-	64 29
3	W. De C. Smith, services and expenses as assistant to committee to test engines, (one-half charged to George H. Corliss,) -	-	-	250 00
4	C. H. Delamater & Co., time and expenses of assistants, testing pumping engines, (one-half charged to George H. Corliss,) -	-	-	237 85
5	Lobdell & Newmans, on account for construction of Hope Reservoir, -	-	-	3,025 00
6	W. A. Burdick, Agent, granite, -	-	-	4,310 00
7	Samuel M. Gray, paid by him for labor at Hope Pumping Station, -	-	-	144 88
8	Samuel M. Gray, paid by him for labor at Pettaconset, -	-	-	896 22
9	William S. Briggs, horse hire by engineers, -	-	-	6 00
10	Charles Warren Campbell, carting rubble stone, -	-	-	154 19
11	Wood & Winsor, pipe, elbows, nipples, labor, &c., -	-	-	27 20
12	Daniel F. Burlingame, repairing tools, &c., -	-	-	37 78
13	Dexter Gorton & Co., carpenters' work, lumber, &c., -	-	-	237 40
14	Samuel M. Gray, on account for payments for labor at Pettaconset, -	-	-	300 00
15	Hopkins & Pomroy, coal and cement, -	-	-	1,102 74
16	Union Water Meter Co., water meters, -	-	-	335 37
17	T. W. Hart, horse hire by committee to test engines, (one-half charged to George H. Corliss,) -	-	-	142 51
18	W. A. Burdick, Agent, granite, -	-	-	1,425 00
19	Warren Foundry and Machine Co., cast-iron water pipes, -	-	-	18,146 72
20	Charles H. Pierce, paid by him for labor, (charged to City of Providence, Public Market,) -	-	-	12 00
21	Samuel M. Gray, on account for payments for labor at Pettaconset, -	-	-	100 00
22	Charles H. Pierce, salary as assistant engineer, -	-	-	250 00
23	Samuel M. Gray, " " " " &c., -	-	-	335 00
24	Charles H. Swan, " " " " -	-	-	166 67
25	Otis F. Clapp, " " " " -	-	-	208 33
26	Howard A. Carson, " " " " -	-	-	208 33
27	William T. Schneider, " " " " -	-	-	100 00
28	C. Frank Allen, " " " " -	-	-	125 00
29	John E. Bowen, " " " " -	-	-	100 00
30	Lucius J. Sampson, " " " " -	-	-	83 33
31	George H. Slade, " " " " -	-	-	83 33
32	Daniel D. Waterman, salary as assistant engineer, -	-	-	66 67
33	George F. Munro, " " " " -	-	-	83 33

Amount carried forward, - - - \$32,786 57

REPORT OF THE WATER COMMISSIONERS.

19

	Amount brought forward,	-	-	-	\$32,786 37
34	Leprilete Sweet, 2d,	"	"	"	83 33
35	Edmund B. Weston,	"	"	" &c.,	67 21
36	Charles F. Janes,	"	"	service pipe	100 00
37	Augustus F. Nagle,	"	"	mechanical engineer,	200 00
38	Henry N. Francis,	"	"	student, engineering department,	41 67
39	Walter R. Jackson,	"	"	student, engineering department,	37 10
40	Edwin P. Dawley,	"	"	student, engineering department,	33 33
41	Charles M. Hunt,	"	"	"	25 00
42	Frank B. Ferris,	"	"	"	25 00
43	Thomas L. Botts,	"	"	"	25 00
44	William H. Olmstead,	"	"	"	25 00
45	William M. Brown, Jr.,	"	"	"	41 67
46	Daniel C. Stone,	"	"	"	33 33
47	Walter F. Slade,	"	"	service pipe clerk,	83 33
48	William Aplin,	"	"	clerk,	83 33
49	William H. Turner,	"	"	clerk, engineering department,	100 00
50	Andrew B. Purdy,	"	"	superintendent of pipe work,	166 67
51	S. Horace Wheeler,	"	"	inspector of service pipes,	125 00
52	Henry M. Wilcox,	"	"	assistant inspector of service pipes,	30 16
53	Samuel R. Eccleston,	salary as inspector of pipes,			104 00
54	Foster S. Dennis, Jr.,	"	"	"	104 00
55	Frederic A. Arnold,	"	"	" water fixtures,	83 33
56	Burrows Chace,	"	"	" at Hope Reservoir,	75 00
57	Richard K. Randolph,	"	"	"	37 74
58	Henry G. Dennis,	"	"	superintendent of pipe yard,	125 00
59	Richard M. Wood,	"	"	clerk at pipe yard,	66 67
60	Jeptha Baker,	"	"	keeper of Sockanosset Reservoir,	70 00
61	George F. Battey,	"	"	pumping engineer,	100 00
62	John Hamilton,	"	"	fireman,	80 00
63	George F. Barney,	"	"	"	60 00
64	George H. De Forest,	"	"	time-keeper at Hope Reservoir,	67 50
65	William F. Tanner,	"	"	axeman,	46 80
66	Leonard N. Austin, Jr.,	"	"	commissioners' clerk,	66 67
67	Thomas C. Gushee,	"	"	"	100 00
68	Phillip S. Ghase,	"	"	"	125 00
69	Clinton D. Sellew,	"	"	secretary of water commissioners,	200 00
70	George F. Johnson,	care of rooms,			56 38
71	Charles H. Pierce,	paid by him for sundries,			26 60
72	Charles H. Pierce,	paid by him for labor at wharf,			542 00
73	Samuel M. Gray,	horse-hire and paid by him for sundries,			95 60
74	Clinton D. Sellew,	paid by him for sundries,			43 41
75	Stone & Carpenter,	architectural services,			750 00
76	Bugbee & Hall,	stationery, drawing paper, &c.,			86 60
77	Valpey, Angell & Co.,	stationery,			3 75
78	Providence Press Co.,	advertising,			66 47
	Amount carried forward,	-	-	-	\$37,265 22

	Amount carried forward,	-	-	\$37,265 22
79	William S. Briggs, horse-hire by engineers,	-	-	9 00
80	Tuttle & Hobbs, horse keeping, &c.,	-	-	85 57
81	Baker & Howe, labor on patterns, shelving, &c.,	-	-	38 60
82	Providence Steam Engine Co., labor of machinists, &c.,	-	-	12 21
83	R. S. Burrough & Co., lard oil,	-	-	40 85
84	Providence Wire Works, brass riddles,	-	-	3 00
85	G. & C. P. Hutchins, shades, chimneys, &c.,	-	-	9 82
86	C. E. Jencks, labor,	-	-	3 15
87	A. C. Eddy & Studleys, packing and tubing,	-	-	52 95
88	Butts & Mason, sponge, putty, &c.,	-	-	2 23
89	John L. Calder, setting meters,	-	-	49 10
90	Henry R. Werthington, water meters,	-	-	671 51
91	Thomas Phillips & Co., laying service pipes,	-	-	70 53
92	Schooner Sarah R. Thomas, freight of water pipes, (charged to Gloucester Iron Works,)	-	-	855 50
93	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	300 00
94	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	-	2,075 00
95	W. A. Burdick, Agent, granite,	-	-	4,535 00
96	" " " " " " " " " "	-	-	2,135 00
97	William Whittaker, testing cement,	-	-	38 71
98	Thomas R. Belcher, " " " " " " " " " "	-	-	19 35
99	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	1,621 88
100	" " " " " " " " " " Hope Pumping Station,	-	-	195 70
101	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	500 00
102	Lobdell & Newmans, extra labor, &c., at Hope Pumping Station,	-	-	29 73
103	Lobdell & Newmans, extra labor, &c., at Hope Pumping Station,	-	-	64 69
104	Knowles, Anthony & Danielson, advertising,	-	-	64 83
105	Providence Gas Co., gas, &c.,	-	-	284 72
106	Royal T. Ingraham, making stone boats, &c.,	-	-	4 04
107	Wood & Winsor, labor, nipples, &c.,	-	-	100 61
108	Daniel F. Burlingame, repairing tools, &c.,	-	-	40 84
109	Providence Nickel Plating Works, plating cups and chains,	-	-	5 50
110	Henry T. Root, brooms and dusters,	-	-	8 08
111	Riley Brothers, felting,	-	-	9 00
112	W. Coleman & Sons, tools,	-	-	11 75
113	Providence and Newport Lead Works, lead,	-	-	41 08
114	M. D. Copelend, teaming &c.,	-	-	44 83
115	Cleveland & Brothers, office furniture, &c.,	-	-	151 75
116	Union Water Meter Co., water meters,	-	-	514 06
117	Wm. H. Miller & Co., repairing tools, &c.,	-	-	71 07
118	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	1,230 82
119	Butts & Mason, oil, &c.,	-	-	6 52
120	Charles Warren Campbell, carting rubble stone,	-	-	485 07
121	Fuller Iron Works, special castings,	-	-	124 65
122	Hopkins & Pomroy, coal, cement, &c.,	-	-	1,160 60
	Amount brought forward,	-	-	\$55,044 12

	Amount brought forward,	-	-	-	\$55,044 12
123	Providence Steam Engine Co., machinists' labor, &c.,	-	-	-	195 82
124	O. C. Williams, repairing telegraph line,	-	-	-	116 73
125	Rhode Island Concrete Company, concreting around hydrants,	-	-	-	194 00
126	Providence Concrete Company, concreting around service boxes,	-	-	-	121 75
127	Henry W. Ellis, trustee to William Elsbree, tools,	-	-	-	10 00
128	Schooner Franklin Pierce, freight of bricks, (charged to S. F. & J. A. Gray,) -	-	-	-	180 00
129	C. S. Bradley, counsel fees,	-	-	-	1,500 00
130	Schooner J. C. Thompson, freight of water pipes, (charged to Gloucester Iron Works,) -	-	-	-	839 74
131	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
132	Samuel M. Gray, " " " " &c.,	-	-	-	335 00
133	Charles H. Swan, " " " " -	-	-	-	166 67
134	Otis F. Clapp, " " " " -	-	-	-	208 33
135	Howard A. Carson, " " " " -	-	-	-	208 33
136	William T. Schneider, salary as assistant engineer,	-	-	-	100 00
137	C. Frank Allen, " " " " -	-	-	-	100 00
138	John E. Bowen, " " " " -	-	-	-	100 00
139	Lucius J. Sampson, " " " " -	-	-	-	100 00
140	George H. Slade, " " " " -	-	-	-	83 33
141	Daniel D. Waterman, " " " " -	-	-	-	66 67
142	George F. Munro, " " " " -	-	-	-	83 33
143	Leprilete Sweet, 2d, " " " " -	-	-	-	83 33
144	Edmund B. Weston, " " " " -	-	-	-	83 33
145	Henry N. Francis, " " " " -	-	-	-	80 56
146	William F. Jones, " " service pipe engineer, -	-	-	-	83 33
147	Augustus F. Nagle, " " mechanical " -	-	-	-	200 00
148	Walter R. Jackson, " " student, engineering department, -	-	-	-	41 67
149	Edwin P. Dawley, salary as student, engineering department,	-	-	-	33 33
150	Charles M. Hunt, " " " " " -	-	-	-	32 78
151	Frank B. Ferris, " " " " " -	-	-	-	27 78
152	Thomas L. Botts, " " " " " -	-	-	-	27 50
153	William H. Olmstead, salary as student, engineering department, -	-	-	-	26 39
154	William M. Brown, Jr, salary as student, engineering department, -	-	-	-	41 67
155	Daniel C. Stone, salary as student, engineering department, -	-	-	-	33 33
156	Alfred E. Martin, " " " " " -	-	-	-	25 00
157	George B. Francis, " " " " " -	-	-	-	20 83
158	Walter F. Slade, " " service pipe clerk, " " -	-	-	-	83 33
159	William Aplin, salary as clerk, engineering department, -	-	-	-	83 33
160	William H. Turner, " " " " " -	-	-	-	100 00
161	Andrew B. Purdy, salary as superintendent of pipe work, -	-	-	-	166 67
162	George Bowers, " " inspector on pipe line, -	-	-	-	64 00
163	S. Horace Wheeler, " " " of service pipes, -	-	-	-	125 00
164	Henry M. Wilcox, " " assistant inspector of service pipes, -	-	-	-	85 00
	Amount carried forward,	-	-	-	\$61,155 98

	Amount brought forward,	-	-	-	\$61,551 98
165	Samuel R. Eccleston, salary as inspector of pipes,	-	-	-	130 00
166	Foster S. Dennis, Jr., " " " " "	-	-	-	104 00
167	Henry G. Dennis, " " " " "	-	-	-	125 00
168	Burrows Chace, " " " at Hope Reservoir,	-	-	-	5 00
169	Richard K. Randolph, " " " " "	-	-	-	130 00
170	Alexis C. Miller, " " " " "	-	-	-	111 77
171	George W. Mitchell, " " " " "	-	-	-	115 00
172	Frederic A. Arnold, " " " of water fixtures,	-	-	-	83 33
173	William G. Budlong, " " " " " meters,	-	-	-	63 89
174	Irvlug H. Potter, " " temporary office assistant, en-	-	-	-	
	gineering department,	-	-	-	41 40
175	Richard M. Wood, salary as clerk at pipe yard,	-	-	-	66 67
176	Jeptha Baker, " " keeper at Sockanosset Reservoir,	-	-	-	77 50
177	George F. Battey, " " pumping engineer,	-	-	-	100 00
178	John Hamilton, " " fireman,	-	-	-	80 00
179	George F. Barney, " " " "	-	-	-	60 00
180	George H. DeForest, " " time keeper at Hope Reservoir,	-	-	-	78 00
181	William F. Tanner, " " axeman,	-	-	-	48 20
182	Frank U. Carter, testing cement,	-	-	-	42 75
183	Albert E. Fuller, " " " "	-	-	-	13 28
184	William Whittaker, " " " "	-	-	-	10 00
185	Everett Belcher, " " " "	-	-	-	7 50
186	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	-	66 67
187	Thomas C. Gushue, " " " " "	-	-	-	100 00
188	Philip S. Chase, " " " " "	-	-	-	125 00
189	Clinton D. Sellew, salary as secretary of water commission-	-	-	-	
	ers,	-	-	-	200 00
190	George F. Johnson, care of rooms,	-	-	-	56 50
191	Charles H. Pierce, paid by him for sundries,	-	-	-	67 86
192	" " " " " labor,	-	-	-	899 88
193	Samuel M. Gray, horse hire &c.,	-	-	-	114 09
194	Gladding Bros. & Tibbitts, stationery,	-	-	-	207 46
195	Akerman & Co., blank books, &c.,	-	-	-	65 05
196	Wm. S. Briggs, horse hire by engineers,	-	-	-	33 00
197	Hopkins & Pomroy, teaming,	-	-	-	96 00
198	M. D. Copeland, " " " "	-	-	-	15 66
199	J. A. Gowdey & Son, brass tape,	-	-	-	25 69
200	Darling, Brown & Sharpe, rule,	-	-	-	8 00
201	Gorham Manufacturing Co., drinking cup and chain,	-	-	-	14 00
202	M. B. Edson, time and pressure recorder,	-	-	-	100 00
203	Dexter Gorton & Co., carpenters' work, lumber &c.,	-	-	-	57 33
204	Providence & Newport Lead Works, tin lined lead pipe and	-	-	-	
	solder,	-	-	-	3,201 53
205	Armington & Leonard, use of pile driver,	-	-	-	100 00
206	W. A. Burdick, Agent, labor,	-	-	-	5 08
207	City of Providence, Commission- } allowance for stock in	-	-	-	
	ers on the Brook street District, } meter burst by freezing,	-	-	-	5 50
208	Union Water Meter Company, water meters,	-	-	-	1,796 10
	Amount carried forward,	-	-	-	\$70,405 67

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	\$70,405 67.
209	Barker, Whitaker & Co , tools, &c.,	-	-348 58
210	Schooner Sarah A. Read, freight of water pipes, (charged to Gloucester Iron Works,) -	-	663 73
211	S. F. & J. A. Gray, on account for bricks,	-	1,000 00
212	T. J. Hill, rent of wharf,	-	500 00
213	Paulding, Kemble & Co., beam centers and front links,	-	3,299 24
214	Schooner A. H. Belden, freight of water pipes, (charged to Gloucester Iron Works,) -	-	594 23
215	Thomas Phillips & Co., laying service pipes,	-	422 10
216	Samuel M. Gray, paid for labor at Hope Pumping Station,	-	57 30
217	" " " " " Pettacousset,	-	4,790 45
218	" " " on account of payments for labor at Pettacousset,	-	600 00
219	Dexter Gorton & Co., carpenters' work, lumber &c.,	-	914 91
220	Daniel F. Burlingame, repairing tools, &c.,	-	119 88
221	Wm. H. Miller & Co., tools, &c.,	-	87 26
222	Wood & Winsor, nipples, tubing, labor, &c.,	-	40 01
223	Providence Steam Engine Co., machinists' labor &c.,	-	253 61
224	Hopkins & Pomroy, coal, cement and carting bricks,	-	2,780 23
225	M. D. Copeland, carting engine and pile driver to Pettacousset, &c.,	-	49 75
226	W. A. Burdick, Agent, granite,	-	45 00
227	" " "	-	2,710 00
228	" " "	-	1,415 00
229	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	4,900 00
230	Lobdell & Newmans, extra labor, &c., at Hope Pumping Station,	-	285 55
231	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	1,800 00
232	G. B. & W. F. Inman, carting pipes,	-	251 28
233	Thomas Phillips & Co., on account for lead pipe, &c.,	-	1,800 00
234	G. B. & W. F. Inman, setting hydrants, repairing streets, &c.,	-	65 50
235	Schooner Elm City, freight of bricks, (charged to S. F. & J. A. Gray,) -	-	59 04
236	T. & W. Breck, rent of offices, &c.,	-	752 50
237	Charles H. Pierce, paid by him for labor,	-	306 02
238	Builders' Iron Foundry, special castings,	-	273 94
239	Fuller Iron Works, " "	-	224 00
240	Gloucester Iron Works, cast iron water pipes,	-	32,496 73
241	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry and Machine Co.) -	-	128 02
242	William Elsbree, labor of men and teams,	-	52 50
243	Thomas Phillips & Co., laying service pipes,	-	61 41
244	J. Herbert Shedd, salary as chief engineer,	-	2,000 00
245	Charles H. Pierce, salary as assistant engineer,	-	250 00
246	Samuel M. Gray, salary as assistant engineer, &c.,	-	335 00
247	Charles H. Swan, salary as assistant engineer,	-	166 67
248	Otis F. Clapp, " " " "	-	208 33
	Amount carried forward,	-	\$137,513 44

	Amount brought forward,	-	-	\$137,513 44
249	Howard A. Carson, salary as assistant engineer,	-	-	208 33
250	William T. Schneider, " " " "	-	-	100 00
251	C. Frank Allen, " " " "	-	-	100 00
252	John E. Bowen, salary as assistant engineer,	-	-	100 00
253	Lucius J. Sampson, " " " "	-	-	100 00
254	George H. Slade, " " " "	-	-	83 33
255	Daniel D. Waterman, " " " "	-	-	66 67
256	Leprilete Sweet, 2d., " " " "	-	-	83 33
257	Edmund B. Weston, " " " "	-	-	83 33
258	Henry N. Francis, " " " "	-	-	83 33
259	William F. Janes, " " " "	-	-	83 33
260	Augustus F. Nagle, " " mechanical engineer,	-	-	200 00
261	Walter R. Jackson, " " student, engineering department,	-	-	41 67
262	Edwin P. Dawley, " " " " " "	-	-	33 33
263	Charles M. Hunt, salary as student, engineering department,	-	-	33 33
264	Frank B. Ferris, " " " " " "	-	-	33 33
265	Thomas L. Botts, " " " " " "	-	-	33 33
266	William H. Olmstead, salary as student, engineering department,	-	-	33 33
267	William M. Brown, Jr., salary as student, engineering department,	-	-	41 67
268	Daniel C. Stone, salary as student, engineering department,	-	-	41 67
269	Alfred E. Martin, " " " " " "	-	-	25 00
270	George B. Francis, " " " " " "	-	-	25 00
271	Walter F. Slade, " " service pipe clerk, engineering department,	-	-	83 33
272	William Aplin, salary as clerk, engineering department,	-	-	83 33
273	William H. Turner, " " " " " "	-	-	100 00
274	Andrew B. Purdy, " " superintendent of pipe work,	-	-	166 67
275	George Bowers, " " inspector on pipe line,	-	-	104 00
276	S. Horace Wheeler, " " " of service pipes,	-	-	125 00
277	Henry M. Wilcox, " " assistant " " " "	-	-	85 00
278	Samuel R. Eccleston, salary as inspector of pipes,	-	-	130 00
279	Foster S. Dennis, Jr., " " " " " "	-	-	104 00
280	Burrows Chace, " " " at Hope Reservoir,	-	-	145 00
281	Richard K. Randolph, " " " " " "	-	-	130 00
282	Alexis C. Miller, " " " " " "	-	-	105 00
283	George W. Mitchell, " " " " " "	-	-	115 00
284	Frederic A. Arnold, " " " of water fixtures,	-	-	83 33
285	William G. Budlong, " " " of " meters,	-	-	83 33
286	Irving H. Potter, " " temporary office assistant, engineering department,	-	-	49 00
287	Edward F. Jeffers, salary as temporary office assistant, engineering department,	-	-	9 00
288	William H. Kelly, salary as temporary office assistant, engineering department,	-	-	13 20
289	Henry G. Dennis, salary as superintendent of pipe yard,	-	-	125 00
290	Richard M. Wood, salary as clerk at pipe yard,	-	-	66 67
291	Jephtha Baker, " " keeper of Sockanosset Reservoir,	-	-	75 00
	Amount carried forward,	-	-	\$141,127 61

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward, - - -	\$141,127 61
292	George F. Battey, salary as pumping engineer, -	100 00
293	John Hamilton, " " fireman, -	80 00
294	George F. Barney, " " " -	60 00
295	George H. DeForest, " " time-keeper at Hope Reservoir, -	86 40
296	William F. Tanner, " " salary as axeman, -	53 20
297	Frank U. Carter, testing cement, -	58 27
298	Everett L. Belcher, " " -	32 50
299	Leonard N. Austin, Jr., salary as commissioners' clerk, -	66 67
300	Thomas O. Gushee, salary as commissioners' clerk, -	100 00
301	Phillip S. Chase, " " " " -	125 00
302	Clinton D. Sellow, " " secretary of water commissioners, -	200 00
303	Joseph J. Cooke, " " " " -	500 00
304	Charles E. Carpenter, " " " " -	500 00
305	William Corliss, " " " " -	500 00
306	George F. Johnson, care of rooms, -	53 50
307	Charles H. Pierce, paid by him for sundries, -	61 71
308	" " " " labor, -	1,183 52
309	Samuel M. Gray, horse-hire, and paid by him for sundries, -	82 03
310	S. R. Eccleston, expenses to Phillipsburg, -	12 00
311	A. F. Nagle, " " Cold Spring, &c., -	31 25
312	H. G. Dennis, expenses to Phillipsburg, &c., and return, -	30 03
313	Stephen Knobb, carting stone, -	3 17
314	B. F. Almy, machine cops, -	26 00
315	James Phillips & Co., water gauge, labor, &c., -	98 83
316	W. P. Knickerbocker & Co., rope, &c., -	126 60
317	F. H. Evans, expansion bolts, -	30 00
318	Louis W. Clarke, adjusting telegraph instruments, -	5 50
319	Daniel M. Knowlton, charcoal, -	36 00
320	George A. Johnson & Son, one horse, -	200 00
321	Moulton & Ingraham, stakes, -	5 00
322	William S. Briggs, horse-hire by engineers, -	21 00
323	Newport Manufacturing Co., couplings, -	50 63
324	Hopkins & Pomroy, coal and carting bricks, -	349 00
325	Horace B. Bowen, hydrant bolts and pipe bolts, -	152 69
326	M. D. Copeland, teaming, -	11 23
327	Providence and Newport Lead Works, lead pipe and solder nipples, -	26 47
328	A. Carpenter, special castings, -	4 70
329	Union Water Meter Co., water meters, -	1,535 25

 \$147,728 76

March,	5.	Of Henry G. Dennis, for materials,	\$7 10
	5.	Of John Smurthurst, for three months' rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to June 1, 1874,	56 25
	6.	Of City of Providence, for sewer expenses,	8,581 25
	7.	Of Fall River Iron Works Co., for repairing meter,	1 00
	14.	Of Samuel M. Gray, for sundries,	4 25
	25.	Of Darling, Brown & Sharpe, for cast iron water pipe,	22 21
	26.	Of Chicopee Manufacturing Co., for services of Samuel R. Eccleston as inspector of pipes, &c.,	125 48
	28.	David Cady & Co., for repairing meter,	2 37
	30.	Of Providence Steam & Gas Pipe Co., for repairing meter,	2 00
	31.	Of Peleg P. Cranston, for three months' rent of "Randall Estate," so called, in Pawtuxet, to April 1, 1874,	50 00
April	2.	Of Albert Weaver, for repairing meter,	1 50
	3.	Of City of Providence, for sewer expenses,	752 67
	16.	Of M. J. Higgins, for repairing meters,	50
	17.	Of Daniel Holmes, for repairing sidewalk,	3 66
	18.	Of City of Providence for sewer expenses,	20 00
	24.	" " " " "	2,796 38
	25.	Of Thomas Pearson, for labor and materials,	136 79
	29.	Of Stephen Thurber, for laying service pipe,	14 21
May	2.	Of Albert Dailey & Co., for labor and materials,	299 38
	5.	Of Rhode Island Hospital, for labor and materials,	670 03
	23.	Of Amos D. Smith, 3d, for laying service pipe,	19 47
	30.	For couplings for street sprinklers during the present quarter,	16 10
		For repairing meters, during April and May,	15 30
		For water during the present quarter,	16,496 76
		For meters during the present quarter,	4,114 55
		For penalties during the present quarter,	22 00
			<hr/>
			\$34,381 21

TRIAL BALANCE OF LEDGER, MAY 30, 1874.

Dr.

Hope Reservoir, for land,	\$134,123 80
" " " sundries,	699 86
" " " labor,	1,808 16
" " " gate chambers,	3,979 30
" " " drain,	404 08
" " " inspection,	3,336 40
" " " conduit,	2,540 10
" " " slope wall,	155 16
Hope engine house,	102,256 39
" " " for lights,	453 63
Hope pumping station, for coal and wood,	1,784 18
" " " " sundries,	275 60
Night and Sunday watch at Hope engine house,	41 23
Sockanosset Reservoir, for construction,	177,870 73
" " " " sundries,	4,255 55
" " " " land,	16,074 35
" " " " watch,	2,186 75
" " " " gate houses,	18,586 17
" " " " drain,	2,431 13
" " " " inspection,	6,819 18
" " " " extra work and materials,	189 70
" " " " gate chambers,	19,399 27
Line of leading mains, for labor and materials,	19,808 53
" " " " extra trenching, etc.,	305 95
" " " " land and damages,	1,665 00
Force main line for land and damages,	3,006 35
" " " " labor and materials,	5,099 28
" " " " extra trenching, etc.,	333 56
Office furniture, stoves, gas fixtures, etc.,	1,313 46
Rent of offices,	3,700 00
Books, stationery, etc.,	924 76
Fuel and lights,	267 55
Horse hire by commissioners,	19 00
Janitor of rooms,	656 00
Traveling expenses of commissioners,	132 62
Clerks' salaries,	7,234 52
Commissioners' salaries,	28,308 78
Secretary's salary,	4,366 71
Sundries,	485 96
Printing,	2,043 57
Advertising,	1,815 92
Fences,	2,050 38
Stop valves,	56,206 73
Store house and work shop,	1,207 83
Rent of wharves and pipe yard,	4,698 99
Linking curved pipes,	232 75
Tools,	8,886 53
Amount carried forward,	\$646,348 91

Amount brought forward,	\$646,248 91
Labor on pipes,	15,932 14
Cast iron water pipes,	1,124,530 94
Special castings,	85,351 93
Lumber,	1,575 30
Fire hydrants,	93,152 27
Sockanosset hill cross road,	3,855 38
Pettaconset and Sockanosset telegraph line,	1,882 59
Dwelling houses at Pettaconset,	9,548 46
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,557 92
Real estate in Warwick,	12,118 04
Water privileges, mill and other real estate in Pawtuxet,	50,231 96
Pochasset bridge,	5,559 62
Wharf salaries,	7,182 79
Temporary engine house at Pettaconset,	9,333 70
Road, slopes, etc., at Pettaconset,	11,529 86
Engine house at Pettaconset,	152,965 43
Natural filter basin,	33,594 60
Removing loam,	462 85
Iron screw piles,	3,766 46
Hydrant bolts,	1,635 98
Pipe bolts,	1,507 45
Photographs,	284 25
Hydrant heads,	7,448 00
Taps and stops,	13,891 59
Valve covers,	7,395 74
Service pipe,	28,041 93
Hydrant boxes,	26,197 41
Setting fire hydrants,	9,577 09
Check valves,	1,412 48
Valve boxes,	26,335 47
Air cocks, boxes, covers and setting,	500 05
Night and Sunday watch at engine house,	1,534 23
Pettaconset pumping station, for sundries,	3,154 33
" " " " engineer,	3,698 28
" " " " coal and wood,	24,489 86
" " " " labor on fuel,	1,592 72
" " " " firemen,	3,817 08
" " " " land,	26,386 77
Setting blow offs,	296 66
Ascertaining and removing nuisances on Pawtuxet river,	479 46
S. F. & J. A. Gray,	1,320 04
Fuller Iron Works,	523 19
Warren Foundry and Machine Co.,	128 02
Loddell & Newmans,	60,400 00
A. & W. Sprague Manufacturing Co.,	2,500 00
Thomas Phillips & Co.,	7,175 00
Paulding, Kemble & Co.,	3,299 24
W. A. Burdick, Agent,	44,199 19
Samuel M. Gray,	600 00
City of Providence, Fountain, Abbott Park,	707 07
City of Providence, Public Market,	12 00
City Treasurer,	131,093 53
" " for water payments,	227,922 02
Amount carried forward,	\$2,949,633 22

REPORT OF THE WATER COMMISSIONERS.

29

Amount brought forward,	\$2,949,683 28
Testing pipe iron,	448 50
Iron drain pipes and gate,	224 31
Carting pipes,	29,666 61
Counsel fees,	6,100 00
Inspection of pipes,	9,134 16
Testing bolts and composition castings,	34 25
Laying water pipes,	331,250 14
Laying service pipes,	24,540 20
Laying suction pipe, etc.,	85 00
Drainage pump and engine,	4,980 67
Hydrants for street sprinklers,	1,975 06
Inspection of pipe laying,	23,515 07
Temporary boarding house at Pettaconset,	1,240 34
Public drinking fountains and troughs,	738 68
Expense of testing engines,	3,120 80
Water meters,	43,251 98
Water meters set, belonging to the city,	1,101 00
Setting, inspection and repairs of meters,	126 53
Inspection of water fixtures,	3,248 73
Warwick test pits,	1,259 58
Miller boilers at Pettaconset,	94 24
Worthington pumping engine,	40,518 14
Cornish pumping engine,	31 25
	<hr/> \$3,474,308 38

ENGINEERING DEPARTMENT:—

For Instruments,	\$2,731 15
Tools,	659 40
Furniture, stoves, gas fixtures, etc.,	2,676 02
Books, stationery, etc.,	2,802 47
Draughting,	3,523 52
Labor,	5,766 40
Horse and wagon account,	1,639 47
Horse keeping, shoeing, etc.,	1,431 27
Horse hire,	3,755 40
Rent of Offices,	6,790 61
Fuel and lights,	666 68
Janitor of rooms,	1,303 42
Experimental filter,	91 08
Sundries,	2,647 06
Test wells,	1,579 40
Consultations,	827 08
Office building at Pettaconset,	553 21
" " Sockanoeset Reservoir,	563 22
Stakes and strips,	709 21
Printing,	418 96
Maps,	86 67
Service pipe experiments,	295 76
Temporary assistance,	7,063 57
Salaries,	114,941 53
	<hr/> \$163,643 53
Amount carried forward,	<hr/> \$3,637,945 86

Amount brought forward,

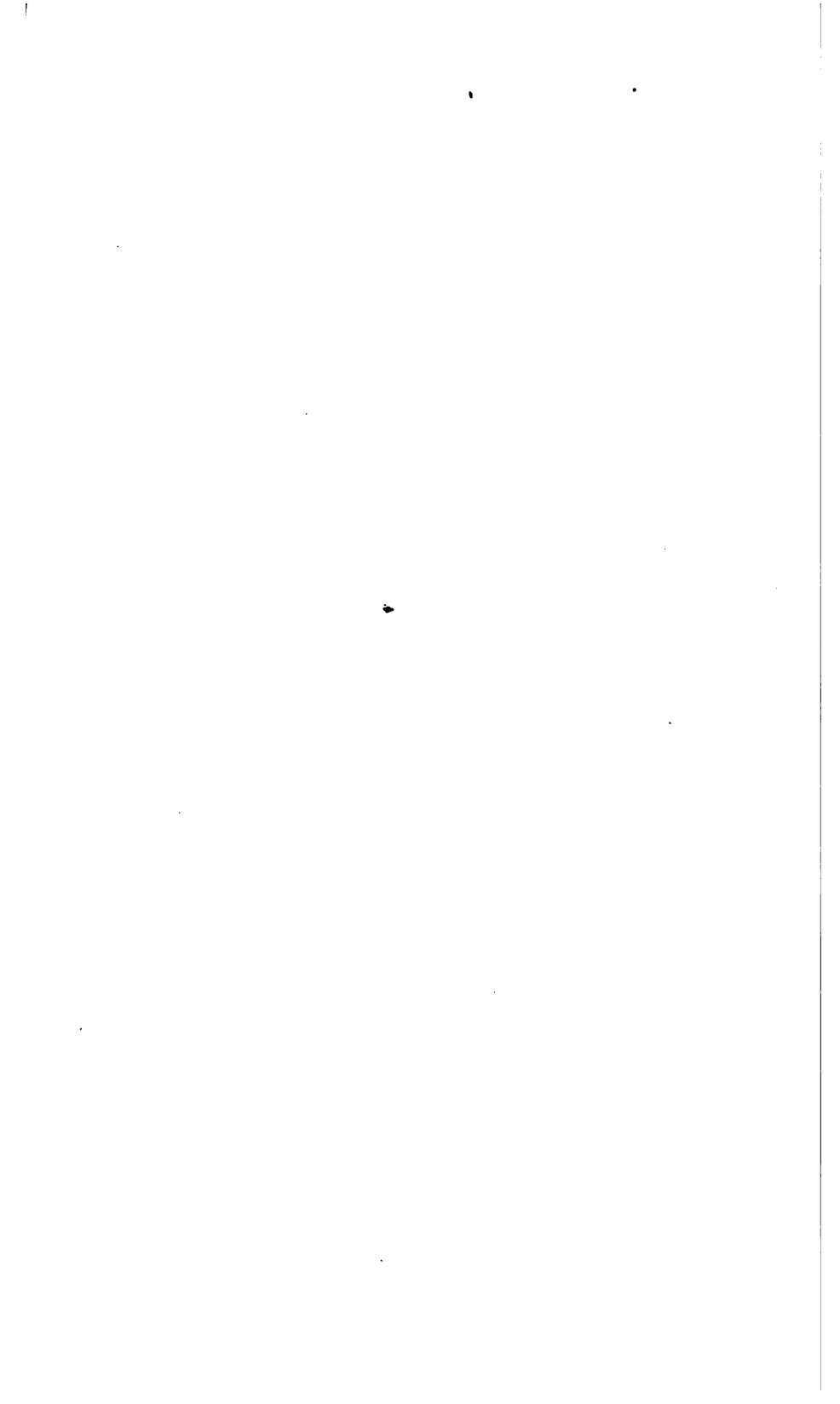
\$3,637,945 86

Cr.

Hope Reservoir for land, (rents received and buildings, etc. sold),	\$5,963 26
Sockanosset Reservoir, for land, (rents received and wood, etc., sold),	1,534 49
Real estate in Warwick, (rents received),	1,081 25
Water privileges, mill and other real estate in Pawtuxet, (rents received),	3,899 53
Pettaconset pumping station, for land, (rents received),	487 89
G. B. & J. M. Cornell,	1,000 00
J. B. & W. F. Inman,	700 00
Interest,	54 66
Boston hydrants,	28 29
Gloucester Iron Works,	3,925 00
Water meters,	42,580 55
Penalties,	168 00
Water,	227,922 08
Approved bills,	3,849,341 40
	<hr/> \$3,637,945 86

**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO JUNE 1st., 1874.**

MONTH.	1872.	1873.	1874.
January.....		\$40,699 09	\$69,356 70
February.....	796 06	4,314 80	3,678 96
March.....	6,671 82	6,669 73	9,221 19
April.....	1,668 59	2,810 07	4,936 98
May.....	2,063 41	1,766 28	2,338 59
June.....	8,634 89	8,228 92	.....
July.....	3,488 27	6,214 24	.....
August.....	1,818 14	1,441 09	.....
September.....	4,933 44	7,550 64	.....
October.....	5,079 08	8,745 53	.....
November.....	477 04	872 83	.....
December.....	5,372 77	8,072 87	.....
	\$41,003 51	\$97,386 09	\$89,532 42



1873-74.

CITY DOCUMENT.

No. 103.

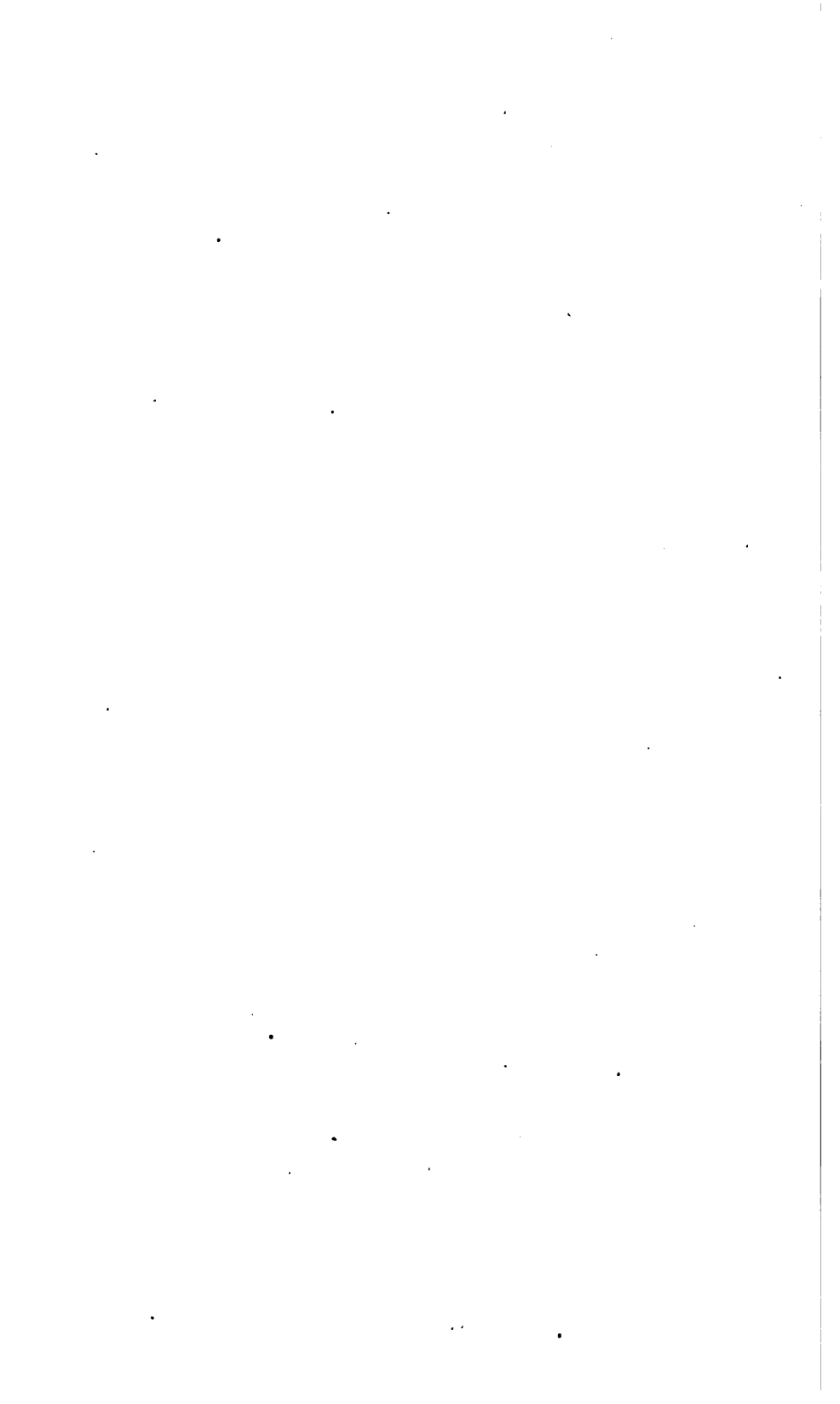
SECOND QUARTERLY REPORT
OF THE BOARD OF
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE.

(Elected February 27, 1874.)

SEPTEMBER 1, 1874.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1874.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

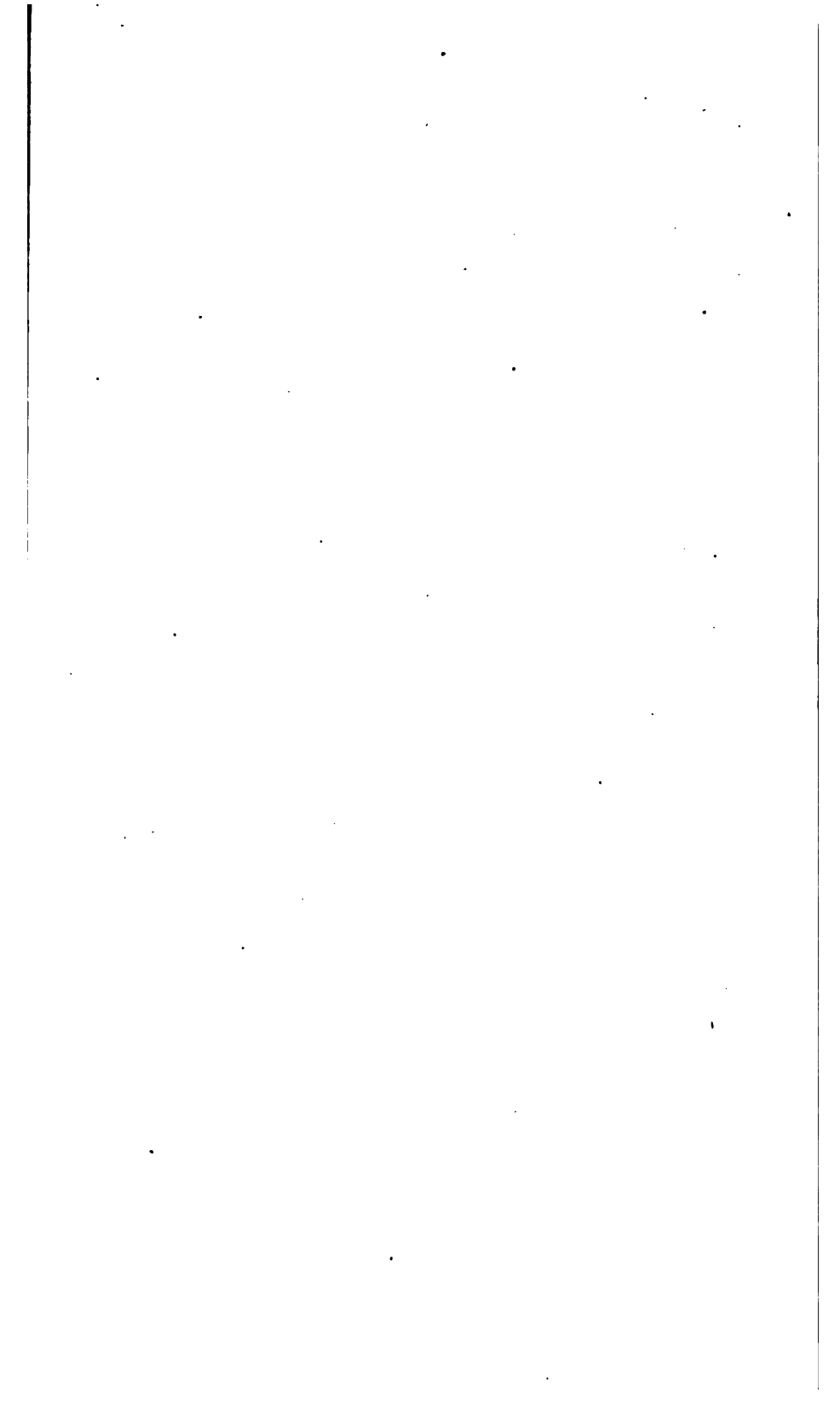
CLINTON D. SELLEW.

Office No. 35 North Main street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main street.



REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
PROVIDENCE, September, 1st, 1874. }

TO THE HONORABLE THE CITY COUNCIL :

The undersigned Water Commissioners, elected February 27th, 1874, under " An ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their Second Quarterly Report :

The salary of Daniel D. Waterman, Assistant Engineer, has been increased to one thousand dollars per annum, dating from July 1, 1874.

The salary of Frederic A. Arnold, Inspector of water fixtures, has been increased to twelve hundred dollars per annum, dating from August 1, 1874.

The salary of Philip S. Chase, Commissioners' clerk, has been increased to eighteen hundred dollars per annum, dating from August 1, 1874.

Walter R. Jackson, student in the engineering department, resigned June 13, 1874.

John Quinn has been appointed Engineer in charge of Hope pumping engine, with a salary of fifteen hundred dollars per annum, dating from June 23, 1874.

Joseph F. Plant has been appointed night engineer at Hope station, with a salary of ninety dollars per month, dating from August 11, 1874; Charles B. Smith, who had previously been appointed, having resigned.

On the fifteenth day of June, an offer of Thomas Phillips & Co., to furnish 20,000 pounds tin lined lead pipe, delivered in this city at 14.36 cents per pound was accepted.

On the 26th ultimo, an offer of Thomas Phillips & Co., to furnish 20,000 pounds tin lined lead pipe, delivered in this city at 14.38 cents per pound, was accepted.

An offer of Hopkins & Pomroy, to furnish 500,000 J. D. bricks, delivered on wharf in this city, at \$9.50 per thousand has been accepted.

An offer of W. A. Burdick, Agent, to furnish steps and buttresses for Sockanosset Reservoir, delivered on the Reservoir grounds, for ten hundred and forty-two $\frac{58}{100}$ dollars, (\$1,042.56) has been accepted.

An offer of the Builders' Iron Foundry to furnish six 30-inch manholes and four 30-inch blow offs at five cents per pound, has been accepted.

The second and third stories of Breck's Building, No. 35 North Main street, occupied by the Commissioners for the last two years, have been leased for three years from 13th ultimo, at thirty-five hundred (\$3,500.) dollars per annum, including heating by steam, with a provision permitting the termination of the lease on giving three months notice, in case the city should erect a City Hall with rooms in readiness for occupancy by the Water Department.

The pumping engine at Hope station, erected by George H. Corliss, has been paid for in conformity with the instructions of the City Council.

Work on Hope Reservoir has progressed satisfactorily during the last quarter.

The walls of the engine house at Pettaconset are nearly ready for the roof. The boiler house and chimneys have been commenced. It is not intended to construct the second chimney above the walls of the boiler-house at present.

Proposals for furnishing and erecting a second pumping engine at Hope Station were opened 26th, ultimo. No decision in regard to them has yet been made.

The average daily consumption of water during the last quarter has been about 1,750,000 gallons.

Plumbers' licenses have been issued as follows :

Charles F. Disley, Patrick McCaffrey, Jr.

The whole number of plumbers' licenses issued is forty-seven.

The following statement shows the length of pipes laid during the last quarter; the sizes of the pipes; where laid, and the totals since the commencement of the work :

30-INCH.

In Reservoir avenue, Thayer and Waterman streets,	3,052 feet.
Including 7 cut pipes, and four branches.	
Previously,	48,123 feet.
Total,	<u>46,175 feet.</u>

24-INCH.

In Waterman street,	1,816 feet.
Including 64 cut pipes, 1 branch and 2 gates,	
Previously,	21,244 feet.
Total,	<u>23,060 feet.</u>

12-INCH.

In Messer and Wayland streets,	1,280 feet
Including 20 cut pipes, 6 branches and 1 gate.	
Previously,	24,374 feet
Total,	25,654 feet

8-INCH.

In Broad, Brook, Camp, Julian, McKenna, Thayer, Valley and West River streets, and in Reservoir avenue,	2,702 feet
Including 51 cut pipes, 16 branches, 10 curved pipes, and 9 gates,	
Previously,	60,076 feet
Total,	62,778 feet

6-INCH.

In Bower, Charles. Field, Church, Dudley, Fre- mont, Gano, George, Grove, Hope, Ives, Keene, Lawrence, Pleasant, Pitman, Power, Putnam, Sampson, Spruce, Wheaton, and West Clifford streets, and in Carrington, Humboldt and Wayland avenues; at Valley Worsted Mill and for Providence Tool Company,	16,598 feet
Including 109 cut pipes, 48 branches, 5 curv- ed pipes, and 34 gates.	
Previously,	319,429 feet
Total,	336,022 feet

Total of all sizes during the last quarter, . 25,448 feet.
or 4.8187 miles.

Previously, including 10, 16, 20 and 36 inch, of
which none have been laid during the last
quarter, . 506,446 feet.

Total, . 531,889 feet.
or 100.7365 miles.

Thirty-three fire hydrants have been set during the last quarter, one in each of the following locations :

Bower street,	north side, about half way between Ives and Governor streets.
Camp street,	north-east corner of Larch street.
Carrington avenue,	north side, about 325 feet east of Camp street.
Dudley street,	north-west corner of first street, west of Prairie avenue.
Eagle street,	east side, about 400 feet north of Atwell's avenue.
George "	north side, 195 feet west of Governor street.
Grove "	south side, about half way between Almy and Courtland streets.
Hope street,	north-west corner of Williams street.
" "	west side, about half way between Power and Charles Field streets.
Humboldt avenue,	north-east corner of Elmgrove avenue.
Ives street,	south-east corner of Amy street.
" "	" " " Front "
" "	" " " Trenton street.
" "	north-west " " Fremont "
" "	north-east " " Bird "
Julian "	north side, opposite west line of Capron street.
" "	north side, opposite west line of Sampson street.
" "	north-west corner of Kossuth street.
" "	" " " Amherst "
Keene street,	north side, about 375 feet east of Prospect street.
Lawrence "	north side, about 280 feet east of Greenwich street.
" "	north side, about 330 feet west of Broad street.

McKenna street,	north-east corner of first street north of Dart street.
Messer street,	north-east corner of Chapin avenue.
Pleasant "	north side, about 375 feet east of Camp street.
Putnam street,	west side, about 270 feet north of Sampson street.
" "	west side, about 182 feet north of Kosuth street.
" "	west side, half way between Amherst street and Atwell's avenue.
Sampson street,	north corner of Bowdoin street.
" "	" east corner of Delaine street.
Spruce "	" west " " Murphy "
Wheaton "	south-east corner of Bowen street.
" "	east side, about 120 feet north of North Court street.

The total number of fire hydrants is now seven hundred and seventy-eight.

One hydrant has also been set for use in filling sprinkling carts, etc. The number of such hydrants is now twenty-five, a portion of which can be used with a single line of hose for extinguishing fires.

The height of water in Sockanosset Reservoir at 7 o'clock this morning, was 179.30. High water in the Reservoir is 180.50 (above high tide in Providence river.)

One hundred and seventy four Ball & Fitts' water meters, made by the Union Water Meter Company, and five water meters made by Fales, Jenks & Sons, have been put in at the expense of water takers since the date of the last report. One one-inch water meter made by Fales, Jenks & Sons, was set June 2d at the expense of the city, and one one-inch water meter, of the same manufacture, previously set at the expense of the city, has been taken out.

There are now sixteen hundred and fifteen water meters in use, viz :

KIND.	SIZES.						TOTALS.
	$\frac{5}{8}$ inch.	$\frac{3}{4}$ inch.	1 inch.	$1\frac{1}{2}$ inch.	2 inch.	4 inch.	
Ball & Fitts...	1,107	193	75	43	9	1	1,428
Worthington..	170	....	....	....	....	1	171
Fales, Jenks & Sons.....	....	....	16	....	....	....	16
	1,277	193	91	43	9	2	1,615

The total number of applications for a supply of water is five thousand one hundred and forty-one.

The number of service stops opened during the last quarter is four hundred and one. Two of which are for fire purposes only.

The total number of service stops opened to date is forty-two hundred and seventy-three.

Four stops have been closed during the last quarter for non-payment of bills, three of which have been re-opened on payment of the bills and a penalty in each case of two dollars, and one for reason of attendant circumstances was re-opened without charge. One stop was closed to enable the owner to set a meter; there being no stop-cock on the premises the charge of two dollars was paid at the time the request was made to have it closed; the stop has since been re-opened. Five stops previously closed for non-payment have been re-opened during the last quarter, and in each case a penalty of two dollars was paid. Twenty-seven stops closed for non-payment remain unopened. The use of one service pipe has been discontinued, but the pipe remains, in view of possible contingencies.

Water is now supplied for the following uses :—

1 armory ; 7 bakeries ; 30 banks ; 63 bar rooms ; 1 bath house ; 1 bath house,—Turkish ; 100 boarding houses ; 6 bottling establishments ; 37 building purposes ; 1 car house ; 3 carriage depositories ; 1 Christian Union ; 19 churches ; 1 city barn ; 1 city bridge,—Point street ; 1 city building ; 5 city drinking fountains ; 17 city drinking troughs ; 778 city fire hydrants ; 8 city fire steamer stations ; 2 city hose houses ; 6 club rooms ; 13 coal yards ; 1 colored shelter ; 1 conservatory of music ; 2 convents ; 1 court house ; 1 decorator ; 1 Dexter Asylum ; 1,872 dwellings of one family ; 1,496 dwellings of two families ; 131 dwellings of three families ; 150 dwellings of four families ; 18 dwellings of five families ; 27 dwellings of six families ; 4 dwellings of seven families ; 5 dwellings of eight families ; 1 dwelling of twelve families ; 2 dye houses ; 3 elevators ; 1 engine turner ; 2 engravers ; 1 express carriage-house ; 43 fire supplies,—private ; 48 fountains—private ; 1 fountain,—public ; 1 furrier ; 2,408 garden and street hydrants ; 3 gas holders ; 6 gold and silver platers ; 5 gold and silver refiners ; 2 grain elevators ; 26 green houses ; 10 halls ; 1 hall of Latter Day Saints ; 1 Home for Aged Women ; 1 hospital ; 15 hotels ; 1 infirmary ; 1 laundry ; 1 lithographer ; 3 lodging houses ; 2 lumber dealers. *Manufacturing Establishments*—2 belt and picker ; 3 blank book ; 2 bleacheries ; 1 bologna sausage ; 1 bonnet bleachery ; 1 boot and shoe ; 1 box ; 1 braiding works ; 2 brass foundries ; 1 brewery ; 1 brush ; 2 butt ; 1 butter ; 3 carriage ; 2 cement pipe ; 1 chain ; 6 cigar ; 1 cigar box ; 16 cloak and dress ; 1 coffin ; 6 confectionery ; 1 corset ; 3 colorers of jewelry ; 7 cotton ; 1 crocus ; 1 distillery ; 3 die sinkers ; 1 dye wood ; 1 emery wheel ; 1 enameler of jewelry ; 1 eyelet ; 2 file ; 7 furniture ; 1 gas ; 1 gas burner ; 4 gas fixtures ; 1 geer ; 2 hat ; 3 harness ; 1 horse shoe ; 2 ice cream and soda water ; 1 ink ; 1 iron company ; 1 iron fence ; 8 iron foundries ; 1 Japan switch ; 1 jewelers' cards ; 75 jewelry ; 4 lapidaries ; 13 machinists ; 1 mowing machine ; 1 nail keg ; 2 oil ; 1 organ ; 1 paper box ; 1 paper collar ; 2 paper cop tube ; 1 pattern ; 3 patent medi-

cine; 3 picture frame; 2 pump; 1 reed; 1 rubber tubing; 4 sash and blind; 2 screw; 1 sheet iron; 2 shirt; 3 silver ware; 5 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engines; 1 stencil plate; 1 stove; 2 tanners; 1 thread; 1 tin; 4 tool; 2 top roll; 6 woolen goods; 1 yeast. *Markets*—36 fish; 87 meat. *Mills*—2 drug and grain; 3 flour and grain; 5 marble works; 1 paint; 9 planing. 1 Music Hall; 1 nickel plater; 16 not classed; 3 Odd Fellows' halls; 1 opera house; 2 Orphan Asylums; 5 organs; 5 oyster houses; 470 offices; 9 photographers; 6 plaster and stucco workers; 8 plumbers; 5 police stations; 10 printing establishments; 9 provision curers and packers; 7 railroads; 1 reading room; 39 restaurants; 1 roofer. *Saloons*.—5 billiard; 3 bowling; 5 ice cream; 12 lager beer; 9 oyster. *Schools*.—1 boarding; 12 private; 31 public; 1 reform. *Shops*.—33 barber; 6 blacksmith; 11 carpenter; 3 cooper; 1 junk; 12 paint; 5 shoemaker; 21 tailor; 5 tinman. *Stables*.—6 hack; 39 livery; 207 private; 3 sale; 59 work. 13 steamboats; 13 steamships; 5 steam and gas-pipe fitters. *Stores*.—1 agricultural implements; 35 apothecary; 1 auction; 4 book; 27 boot and shoe; 1 carpet; 2 carriage trimmings; 11 cigar; 17 clothing; 7 confectionery; 3 drug; 38 dry goods; 80 fancy goods; 9 flour and grain; 11 fruit; 10 furniture; 9 gents' furnishing goods; 105 grocery,—retail; 15 grocery,—wholesale; 7 hardware; 2 hide and leather; 2 hoop skirt; 10 house furnishing goods; 4 house paper; 3 iron and steel; 10 jewelry; 11 liquor; 1 lime and brick; 2 manufacturers' supplies; 30 millinery; 9 newspaper; 3 oil and paint; 2 paper and paper stock; 1 piano forte; 7 produce,—wholesale; 3 sewing machines; 4 stationery; 2 stove; 3 tea; 2 trunk; 1 umbrella; 1 wooden ware; 1 wool; 2 woolen goods. 1 State Prison; 1 storehouse; 4 undertakers; 1 United States Custom House building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 3 wood yards.

The amount of expenditures during the last
 quarter, is - - - - \$346,885 07

The total amount of expenditures, is	-	3,696,126	47
The total amount of appropriations, is	-	3,800,000	00
The unexpended balance, is	-	103,873	53
The amount received during the last quarter, all of which has been paid to the City Treasurer, is			
For water supplies,	-	\$18,298	23
For water meters,	-	4,336	75
For penalties,	-	18	00
For sundries,	-	2,809	24
			25,457 22
The amount received for water in 1872, was		41,003	51
The amount received for water in 1873, was		97,386	09
The amount received for water during the first eight months of 1874, is	-	107,825	65
The total amount received for water to date, is		246,215	25
The amount of all receipts to date, is	-	384,404	77

An additional appropriation will probably be needed before the close of the present quarter.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of ledger, August 31, 1874, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers, will be presented.

JOSEPH J. COOKE,	}	<i>Board of Water Commissioners.</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		

SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER COMMISSIONERS FROM JUNE 1, 1874, TO AUGUST 31, 1874, INCLUSIVE.

330	Schooner J. B. Norris, freight of bricks, (charged to S. F. & J. A. Gray,) - - -	\$60 00
331	Schooner Sarah R. Thomas, freight of water pipes, (charged to Gloucester Iron Works,) - - -	834 81
332	Schooner Sarah R. Thomas, freight of water pipes, (charged to Gloucester Iron Works,) - - -	785 24
333	Samuel M. Gray, paid by him for labor at Pettaconset, - - -	6,219 82
334	Samuel M. Gray, on account for payment for labor at Pettaconset, - - -	600 00
335	Samuel M. Gray, paid by him for labor at Hope Pumping Station, - - -	66 75
336	Lobdell & Newmans, on account for construction of Hope Reservoir, - - -	8,350 00
337	Paulding, Kemble & Co., wrought iron cross heads, - - -	2,006 40
338	G. B. & W. F. Inman, carting pipes, - - -	1,293 94
339	Angell & Lansing, lumber, - - -	1,071 88
340	Lobdell & Newmans, extra labor and materials at Hope Pumping Station, - - -	1,528 66
341	Ira Mathewson, extending lightning rods at Hope Engine House, - - -	52 50
342	Congdon, Carpenter & Co., iron, bolts, &c., - - -	40 90
343	Daniel F. Burlingame, repairing tools, &c., - - -	70 47
344	G. B. & W. F. Inman, trenching and back-filling and laying water pipes, - - -	2,400 00
345	Paulding, Kemble & Co., on account for constructing pumping engine, - - -	9,585 00
346	W. A. Burdick, Agent, granite, - - -	1,728 00
347	W. A. Burdick, Agent, granite, - - -	2,425 00
348	Hopkins & Pomroy, coal, cement, carting bricks, &c., - - -	3,705 96
349	Olney Brothers, oil, - - -	79 44
350	W. Coleman & Sons, sheaves, - - -	8 50
351	M. D. Copeland, carting bricks to Pettaconset, - - -	194 00
352	Snow & Lewis, cement, - - -	545 00
353	Gloucester Iron Works, cast iron water pipes, - - -	9,194 42
354	Steamer E. A. Woodward, freight of water pipes, (charged to Warren Foundry and Machine Co.,) - - -	304 59
355	S. F. & J. A. Gray, bricks, - - -	400 00
356	Dexter Gorton & Co., carpenters' work, lumber, &c., - - -	829 29
357	Hammond, Angell & Co., printing, - - -	331 88
358	Warren Foundry and Machine Co., cast iron water pipes, - - -	12,203 37
359	Fuller Iron Works, special castings, - - -	411 48
360	Builders' Iron Foundry, special castings, - - -	218 88
	Amount carried forward, - - -	\$67,544 68

	Amount brought forward,	-	-	\$67,544 68
361	George W. Smith, cutting curbstones for hydrant boxes,	-	-	14 00
362	Charles H. Pierce, paid by him for labor,	-	-	403 89
363	G. B. & W. F. Inman, setting fire hydrants, &c.,	-	-	127 50
364	G. B. & W. F. Inman, on account of reservation in bill for laying water pipes in 1873,	-	-	2,000 00
365	George H. Corliass, pumping engine, &c., at Hope Pumping Station, (approved by direction of the City Council,) -	-	-	54,708 16
366	Frederic Graff, professional services and expenses as member of committee to test pumping engines, (approved by virtual direction of the City Council,) -	-	-	2,000 00
367	Erastus W. Smith, professional services and expenses as member of committee, to test pumping engines, (approved by virtual direction of the City Council,) -	-	-	1,500 00
368	George H. Reynolds, professional services and expenses as member of committee to test pumping engines, (approved by virtual direction of the City Council,) -	-	-	1,500 00
369	Schooner Sarah R. Thomas, freight of water pipes, (charged to Gloucester Iron Works,) -	-	-	801 48
370	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
371	Samuel M. Gray, " " " " &c.,	-	-	335 00
372	Charles H. Swan, " " " " -	-	-	166 67
373	Otis F. Olapp, " " " " -	-	-	206 33
374	Howard A. Carson, " " " " -	-	-	208 33
375	William T. Schneider, " " " " -	-	-	100 00
376	O. Frank Allen, " " " " -	-	-	100 00
377	John E. Bowen, " " " " -	-	-	100 00
378	Lucius J. Sampson, " " " " -	-	-	100 00
379	George H. Slade, " " " " -	-	-	83 33
380	Daniel D. Waterman, " " " " -	-	-	66 67
381	Lepriete Sweet, 2d, " " " " -	-	-	83 33
382	Edmund B. Weston, " " " " -	-	-	83 33
383	Henry N. Francis, " " " " -	-	-	83 33
384	William F. Janes, " " service pipe engineer,	-	-	83 33
385	Augustus F. Nagle, " " mechanical " -	-	-	200 00
386	Walter R. Jackson, " " student, engineering department	-	-	18 06
387	Edwin P. Dawley, " " " " " -	-	-	35 00
388	Charles M. Hunt, " " " " " -	-	-	33 33
389	Frank B. Ferris, " " " " " -	-	-	33 33
390	Thomas L. Botts, " " " " " -	-	-	33 33
391	William H. Olmstead, " " " " " -	-	-	33 33
392	William M. Brown, Jr., " " " " " -	-	-	41 67
393	Daniel C. Stone, " " " " " -	-	-	41 67
394	Alfred E. Martin, " " " " " -	-	-	25 00
395	George B. Francis, " " " " " -	-	-	25 00
396	Charles A. Harper, salary as student, engineering department, -	-	-	10 00
397	Walter F. Slade, salary as service pipe clerk, -	-	-	83 33
398	William Aplin, " " clerk, engineering department, -	-	-	83 33
399	William H. Turner, salary as clerk, engineering department,	-	-	100 00
	Amount carried forward,	-	-	\$133,447 74

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,		\$133,447 74
400	Andrew B. Purdy, salary as superintendent of pipe work,	166 67
401	George Bowers, " " inspector on pipe line,	104 00
402	S. Horace Wheeler, " " " of service pipes,	125 00
403	Henry M. Wilcox, " " assistant inspector of service pipes,	100 00
404	Samuel R. Eccleston, salary as inspector of pipes,	130 00
405	Foster S. Dennis, Jr., " " " " " "	104 00
406	Burrows Chace, " " " at Hope Reservoir,	130 00
407	Richard K. Randolph, " " " " " "	130 00
408	Alexis C. Miller, " " " " " "	105 00
409	George W. Mitchell, " " " " " "	115 00
410	Rencellaer B. S. Hart, " " " " " "	17 69
411	Frederic A. Arnold, " " " of water fixtures,	83 33
412	William G. Budlong, " " " " meters,	83 33
413	Irving H. Potter, " " temporary assistant, engineering department,	50 00
414	Edward F. Jeffers, salary as temporary assistant, engineering department,	25 50
415	Louis W. Peck, salary as temporary assistant, engineering department,	60 00
416	Frank E. Wiggin, salary as temporary assistant, engineering department,	36 00
417	Henry G. Dennis, salary as superintendent of pipe yard,	125 00
418	Richard M. Wood, " " clerk at pipe yard,	66 67
419	Jeptha Baker, " " keeper of Sockanosset Reservoir,	77 50
420	George F. Battey, " " pumping engineer, Pettacomet,	100 00
421	John Quinn, " " " Hope Station,	83 33
422	John Hamilton, " " fireman, Pettacomet,	80 00
423	George F. Barney, " " " " "	60 00
424	George H. DeForest, salary as time keeper at Hope Reservoir,	94 50
425	William F. Tanner, salary as axeman,	50 20
426	Frank U. Carter, testing cement,	29 25
427	William H. Kelly, testing cement,	5 25
428	Everett L. Belcher, " " " "	16 25
429	Leonard N. Austin, Jr., salary as commissioners' clerk,	66 67
430	Thomas C. Gushee, " " " " "	100 00
431	Phillip S. Chase, " " " " "	125 00
432	Clinton D. Sellew, " " secretary of water commissioners,	200 00
433	George F. Johnson, care of rooms,	56 80
434	Samuel M. Gray, horse hire and paid by him for sundries,	95 43
435	Clinton D. Sellew, paid by him for sundries,	25 39
436	Gladding Bros. & Tibbits, stationery,	82 66
437	Akerman & Co., blank books, &c.,	42 55
438	Baker & Howe, office furniture,	76 58
439	Moulton & Ingraham, stakes and wedges,	10 08
440	Henry Cram, window shades and fixture,	8 10
441	Newport Manufacturing Co., couplings,	11 81

Amount carried forward, - \$136,652 28

	Amount brought forward,	-	-	\$136,652 28
442	W. Coleman & Sons, blocks,	-	-	28 00
443	Edward L. Tracey, use of carpenters' tools,	-	-	13 00
444	Charles H. George & Co., pig lead and iron box,	-	-	50 92
445	George W. Hall & Co., sand screen,	-	-	6 30
446	Henry R. Worthington, labor and materials on Worthington engine,	-	-	853 29
447	Providence Steam and Gas Pipe Co., clips, &c.,	-	-	93 12
448	A. C. Eddy & Studleys, rubber packing, tubing, &c.,	-	-	48 57
449	Charles H. Pierce, paid by him for sundries,	-	-	136 48
450	Charles H. Pierce, " " " labor,	-	-	1,146 40
451	Union Water Meter Co., water meters,	-	-	1,116 25
452	Abbott Lawrence, expressages of meters,	-	-	4 50
453	George W. Smith, cutting curbstones for hydrant boxes,	-	-	8 00
454	Wm. H. Miller & Co., repairing tools, &c.,	-	-	59 68
455	Providence Steam Engine Co., examination of boilers, &c.,	-	-	17 50
456	Providence Gas Co., gas,	-	-	197 11
457	Wood & Winsor, machinists' labor, pipe, fittings, &c.,	-	-	167 94
458	Steamer E. A. Woodward, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	246 18
459	Charles H. Parkhurst, counsel fees,	-	-	400 00
460	S. F. & J. A. Gray, bricks,	-	-	300 96
461	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	-	2,000 00
462	G. B. & W. F. Inman, balance of reservation for trenching and back-filling and laying water pipes in 1873,	-	-	500 00
463	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	14,145 00
464	M. D. Copeland, carting pipes,	-	-	47 45
465	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	7,696 04
466	Samuel M. Gray, " " " " " Hope Pumping Station,	-	-	100 74
467	Charles H. Pierce, paid by him for labor,	-	-	118 96
468	Bugbee & Hall, tracing cloth, &c.,	-	-	47 75
469	Valpey, Angell & Co., stationery,	-	-	4 05
470	Providence & Newport Lead Works, tin lined lead pipe, &c.,	-	-	266 65
471	Providence Builders' Association, cement,	-	-	89 18
472	Wood & Winsor, labor, pipe, fittings, &c.,	-	-	21 14
473	Daniel F. Burlingame, repairing tools, &c.,	-	-	94 03
474	G. B. & W. F. Inman, carting pipes,	-	-	1,426 15
475	G. B. & W. F. Inman, setting fire hydrants, repairing streets, &c.,	-	-	97 50
476	W. A. Burdick, Agent, granite,	-	-	44 43
477	W. A. Burdick, Agent, " "	-	-	1,890 00
478	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	-	11,000 00
479	Builders' Iron Foundry, special castings,	-	-	2,003 03
480	Hopkins & Pomroy, coal, lime, carting bricks, &c.,	-	-	2,487 60
481	John A. Moore, carting cement, bricks, &c.,	-	-	68 68
	Amount carried forward,	-	-	\$145,696 46

	Amount brought forward,	-	-	-	\$185,696 46
482	Samuel M. Gray, on account for payments for labor at Pet-	-	-	-	600 00
	taconset,	-	-	-	
483	Lobdell & Newmans, extra labor and materials at Hope	-	-	-	2,241 60
	Pumping Station,	-	-	-	
484	Benjamin L. Spencer, services as engineer at Hope Pumping	-	-	-	26 00
	Station,	-	-	-	
485	Charles Mitchell, services as fireman, at Hope Pumping	-	-	-	46 75
	Station,	-	-	-	
486	Thomas Miller, services as fireman at Hope Pumping Station,	-	-	-	14 67
487	Warren Foundry and Machine Co., cast iron water pipes,	-	-	-	13,477 33
488	Gloucester Iron Works,	-	-	-	18,415 42
489	Charles H. Pierce, paid by him for labor,	-	-	-	263 65
490	Dexter Gorton & Co., carpenters' work, lumber, &c.,	-	-	-	1,434 56
491	Wm. H. Miller & Co., blacksmiths' work on tools, &c.,	-	-	-	51 36
492	Fuller Iron Works, special castings and valve boxes,	-	-	-	1,712 54
493	C. E. Jencks, labor, lumber, &c.,	-	-	-	7 56
494	W. A. Burdick, Agent, granite,	-	-	-	804 03
495	Thomas Phillips & Co., tin lined lead pipe,	-	-	-	301 99
496	Thomas Phillips & Co., " " " "	-	-	-	2,886 50
497	Steamer E. A. Woodward, freight of water pipes, (charged	-	-	-	
	to Warren Foundry and Machine Co.,)	-	-	-	316 10
498	W. A. Burdick, Agent, granite,	-	-	-	4,105 00
499	W. A. Burdick, Agent, " "	-	-	-	870 00
500	W. A. Burdick, Agent, granite,	-	-	-	6,140 00
501	Schooner J. C. Thompson, freight of water pipes, (charged	-	-	-	
	to Gloucester Iron Works,)	-	-	-	579 01
502	Taunton Brick Co., on account for bricks,	-	-	-	3,000 00
503	G. G. Hicks, labor bending ties,	-	-	-	84 38
504	City of Providence, Sewer Department, sewer pipes and rings,	-	-	-	
	manhole-frames and covers and bricks,	-	-	-	561 33
505	Paulding, Kemble & Co., piston rod, pump rod and beam	-	-	-	2,270 58
	centres,	-	-	-	
506	Steamer E. A. Woodward, freight of water pipes, (charged to	-	-	-	
	Warren Foundry and Machine Co.,)	-	-	-	134 98
507	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
508	Samuel M. Gray, " " " " &c.,	-	-	-	335 00
509	Charles H. Swan, " " " " "	-	-	-	166 67
510	Otis F. Clapp, " " " " "	-	-	-	208 83
511	Howard A. Carson, " " " " "	-	-	-	208 33
512	William T. Schneider, salary as assistant engineer,	-	-	-	100 00
513	C. Frank Allen, " " " " "	-	-	-	100 00
514	John E. Bowen, " " " " "	-	-	-	100 00
515	Lucius J. Sampson, " " " " "	-	-	-	100 00
516	George H. Slade, " " " " "	-	-	-	83 33
517	Daniel D. Waterman, " " " " "	-	-	-	83 33
518	Leprilite Sweet, 2d, " " " " "	-	-	-	83 33
519	Edmund B. Weston, " " " " "	-	-	-	83 33
520	Henry N. Francis, " " " " "	-	-	-	83 33
521	William F. Janes, " " service pipe engineer,	-	-	-	83 33
522	Augustus F. Nagle, " " mechanical " "	-	-	-	200 00
523	Edwin P. Dawley, " " student, engineering depart-	-	-	-	
	ment,	-	-	-	41 67
	Amount carried forward,	-	-	-	\$248,351 65

Amount brought forward, - - -			\$248,351 65
524	Charles M. Hunt, salary as student, engineering department,		33 33
525	Frank B. Ferris, " " " " "		33 33
526	Thomas L. Botts, " " " " "		33 33
527	William H. Olmstead, salary as student, engineering department, -		33 33
528	William M. Brown, Jr., salary as student, engineering department, -		41 67
529	Daniel C. Stone, salary as student, engineering department,		41 67
530	George B. Francis, " " " " "		25 00
531	Charles A. Harper, " " " " "		25 00
532	Charles E. Shedd, " " " " "		15 32
533	Walter F. Slade, " " service pipe clerk, engineering department, -		83 33
534	William Aplin, salary as clerk, engineering department, -		83 33
535	Wm. H. Turner, " " " " "		100 00
536	Irving H. Potter, " " " " "		46 00
537	Andrew B. Purdy, salary as superintendent of pipe work, -		166 67
538	George Bowers, " " inspector on pipe line, -		108 00
539	S. Horace Wheeler, " " " of service pipes, -		125 00
540	Henry M. Wilcox, " " assistant inspector of service pipes, -		100 00
541	Samuel R. Eccleston, salary as inspector of pipes, -		135 00
542	Foster S. Dennis, Jr., " " " " "		108 00
543	Burrows Chace, " " " at Hope Reservoir, -		130 00
544	Richard K. Randolph, salary as inspector at Hope Reservoir,		130 00
545	Alexis C. Miller, " " " " " "		105 00
546	George W. Mitchell, " " " " " "		115 00
547	Rencellaer B. S. Hart, salary as inspector at Hope Reservoir, -		115 00
548	Frederic A. Arnold, salary as inspector of water fixtures,		83 33
549	William G. Budlong, " " " " meters, -		83 33
550	Mark Wilmarth, " " temporary assistant, engineering department, -		69 89
551	Frank E. Wiggins, salary as temporary assistant, engineering department, -		36 00
552	Edward F. Jeffers, salary as temporary assistant, engineering department, -		22 50
553	J. H. C. Smith, salary as temporary assistant, engineering department, -		14 00
554	Edgar F. Ballou, salary as temporary assistant, engineering department, -		12 00
555	Henry G. Dennis, salary as superintendent of pipe yard, -		125 00
556	Richard M. Wood, " " clerk at pipe yard, -		66 67
557	Jeptha Baker, " " keeper of Sockanosset Reservoir,		75 00
558	George F. Battey, " " pumping engineer, Pettaconset, -		100 00
559	John Hamilton, " " fireman, " -		80 00
560	George F. Barney, " " " " -		60 00
561	John Quinn, " " pumping engineer, Hope Station,		125 00
562	Charles B. Smith, " " night " " " -		100 00
Amount carried forward, - - -			\$251,336 68

	Amount brought forward,	-	-	\$251,336 68
563	Thomas Miller, salary as fireman, Hope Station	-	-	65 00
564	Michael Hamill, " " " "	-	-	46 13
565	Geo. H. DeForest, " " time keeper at Hope Reservoir,	-	-	81 00
566	William F. Tanner, " " axeman,	-	-	41 80
567	Frank U. Carter, testing cement,	-	-	24 75
568	Everett L. Belcher, " " "	-	-	13 75
569	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	66 67
570	Thomas C. Gushee, " " " "	-	-	100 00
571	Philip S. Chase, " " " "	-	-	125 00
572	Clinton D. Sewell, " " secretary of water com- missioners,	-	-	200 00
573	John Purnell, care of rooms,	-	-	10 00
574	Charles H. Pierce, paid by him for sundries,	-	-	73 47
575	Charles H. Pierce, paid by him for labor,	-	-	1,091 00
576	Samuel M. Gray, horse hire and paid by him for sundries,	-	-	86 00
577	Union Water Meter Co., water meters,	-	-	1,632 87
578	A. Lawrence, expressages of meters,	-	-	4 00
579	Henry Holden, horse shoeing,	-	-	7 25
580	Providence Steam Engine Co., labor of engineer, &c.,	-	-	81 75
581	W. Coleman & Sons, blocks, &c.,	-	-	22 50
582	John Heathcote & Co., tools for reaming meters,	-	-	5 00
583	Providence Power Cement Drain Pipe Co., cement pipe,	-	-	5 76
584	Tingley Marble Company, rubbing bricks,	-	-	37 60
585	J. L. Pierce & Co., oil,	-	-	88 38
586	J. B. Handy, repairing wagon,	-	-	12 00
587	Ezra I. Walker, painting wagon,	-	-	16 00
588	William S. Briggs, horse hire, by engineers,	-	-	12 00
589	D. E. Howard, care of rooms,	-	-	7 39
590	W. Congdon & Sons, steel tape, &c.,	-	-	36 40
591	Tuttle & Hobbs, horse keeping, &c.,	-	-	140 14
592	G. W. Edmunds, repairing wagon,	-	-	19 76
593	A. C. Eddy & Studleys, packing rings, hose, &c.,	-	-	36 75
594	Samuel M. Gray, on account for payments for labor at Pet- taconset,	-	-	200 00
595	Schooner Henry Allen, freight of water pipes, charged to Gloucester Iron Works,) -	-	-	589 55
596	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	-	4,450 00
597	G. B. & W. F. Inman, carting pipes,	-	-	1,099 14
598	Alva Carpenter, valve covers and grated inlets,	-	-	134 03
599	Kinnecom & Co., use of derrick,	-	-	78 00
600	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	8,564 08
601	Samuel M. Gray, " " " " Hope Pumping Station,	-	-	91 22
602	Samuel M. Gray, on account for payments for labor at Pet- taconset,	-	-	2,400 00
603	Lobdell & Newmans, extra labor and materials at Hope Pumping Station,	-	-	840 13
604	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	-	11,450 00
	Amount carried forward,	-	-	\$285,442 95

	Amount brought forward,	-	-	\$285,442 95
605	W. A. Burdick, Agent, granite,	-	-	565 00
606	W. A. Burdick, Agent, "	-	-	2,835 00
607	W. A. Burdick, Agent, "	-	-	2,465 00
608	W. A. Burdick, Agent, "	-	-	177 20
609	Daniel F. Burlingame, repairing tools, &c.,	-	-	108 20
610	Dexter Gorton & Co., lumber, carpenter's work, &c.,	-	-	1,064 27
611	M. D. Copeland, teaming,	-	-	21 20
912	Fuller Iron Works, special castings and valve boxes,	-	-	1,501 89
613	Builders' Iron Foundry, special castings and pipe bolts,	-	-	1,761 77
614	Prov. Builders' Association, cement,	-	-	409 50
615	Louis W. Clarke, repairing telegraph line,	-	-	5 10
616	Edward L. Tracy, use of carpenters' tools,	-	-	13 00
617	Hopkins & Pomroy, coal, lime, carting bricks, &c.,	-	-	1,520 11
618	G. B. & W. F. Inman, setting fire hydrants, repairing streets, &c.,	-	-	76 50
619	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	12,805 00
620	Gloucester Iron Works, cast iron water pipes,	-	-	9,525 20
621	T. & W. Breck, rent of offices, &c.,	-	-	752 50
622	Charles H. Pierce, paid by him for labor,	-	-	315 49
623	Hopkins & Pomroy, cement, carting bricks, &c.,	-	-	8 27
624	Charles B. Smith, salary as night engineer, Hope Pumping Station,	-	-	32 26
625	W. Coleman & Sons, double blocks,	-	-	34 00
626	W. P. Knickerbocker & Co., manilla rope,	-	-	33 25
627	Snow & Lewis, cement,	-	-	109 00
628	Schooner J. C. Thompson, freight of water pipes, (charged to Gloucester Iron Works,)	-	-	304 98
629	Warren Foundry and Machine Co., cast iron water pipes,	-	-	10,958 97
630	Thomas J. Hill, rent of wharf, &c.,	-	-	808 33
631	J. Herbert Shedd, salary as chief engineer,	-	-	2,000 00
632	Charles H. Pierce, " assistant engineer,	-	-	250 00
633	Samuel M. Gray, " " " &c.,	-	-	335 00
634	Charles H. Swan, " " " "	-	-	125 00
635	Otis F. Clapp, " " " "	-	-	208 33
636	Howard A. Carson, " " " "	-	-	208 33
637	William T. Schneider, salary as assistant engineer,	-	-	100 00
638	C. Frank Allen, " " " "	-	-	100 00
639	John E. Bowen, " " " "	-	-	100 00
640	Lucius J. Sampson, " " " "	-	-	100 00
641	George H. Slade, " " " "	-	-	83 33
642	Daniel D. Waterman, " " " "	-	-	83 33
643	Leprilete Sweet, 2d, " " " "	-	-	83 33
644	Edmund B. Weston, " " " "	-	-	83 33
645	Henry N. Francis, " " " "	-	-	83 33
646	William F. Jones, " service pipe engineer,	-	-	83 33
647	Augustus F. Nagle, " mechanical engineer,	-	-	100 00
648	Edwin P. Dawley, " student engineering department,	-	-	41 67
	Amount carried forward,	-	-	\$337,822 25

Amount brought forward,		\$337,822 26
649	Charles M. Hunt, salary as student engineering department,	33 33
650	Frank B. Ferris, " " " " "	33 33
651	Thomas L. Botts, " " " " "	33 33
652	Wm. H. Olmstead, " " " " "	33 33
653	Wm. M. Brown, Jr., " " " " "	41 67
654	Daniel C. Stone, " " " " "	41 67
655	George B. Francis, " " " " "	25 00
656	Charles A. Harper, " " " " "	25 00
657	Charles E. Shedd, " " " " "	25 00
658	Walter F. Slade, " " service pipe clerk, engineering department,	83 33
659	William Aplin, salary as clerk, engineering department,	83 33
660	William H. Turner, salary as clerk, engineering department,	100 00
661	Irving H. Potter, " " " " "	38 20
662	Andrew B. Purdy, " " superintendent of pipe work,	166 67
663	George Bowers, " " inspector on pipe line,	104 00
664	Foster S. Dennis, Jr., " " " " " &c.,	104 00
665	S. Horace Wheeler, salary as inspector of service pipe,	125 00
666	Henry M. Wilcox, " " assistant inspector of service pipe,	100 00
667	Samuel R. Eccleston, salary as inspector of pipes,	130 00
668	Burrows Chace, " " " " at Hope Reservoir,	130 00
669	Richard K. Randolph, " " " " " "	130 00
670	Alexis C. Miller, " " " " " "	105 00
671	George W. Mitchell, " " " " " "	115 00
672	Rencellaer B. S. Hart, " " " " " "	115 00
673	Frederic A. Arnold, " " " of water fixtures,	100 00
674	William G. Budlong, " " " water meters,	83 33
675	Mark Wilmarth, " " temporary assistant, engineering department,	83 33
676	Frank E. Wiggin, salary as temporary assistant, engineering department,	40 50
677	J. H. C. Smith, salary as temporary assistant, engineering department,	54 00
678	Edgar F. Ballou, salary as temporary assistant, engineering department,	20 48
679	George W. Winsor, Jr., salary as temporary assistant, engineering department,	39 00
680	Charles H. Wheeler, salary as temporary assistant, engineering department,	24 00
681	Henry G. Dennis, salary as superintendent of pipe yard,	125 00
682	Richard M. Wood, " " clerk at pipe yard,	66 67
683	Jeptha Baker, salary as keeper of Sockanosset Reservoir,	77 50
684	George F. Battey, salary as pumping engineer, Pettaconset,	100 00
685	John Hamilton, " " fireman,	80 00
686	George F. Barney, " " " "	60 00
687	John Quinn, " " pumping engineer, Hope Station,	125 00
688	Joseph F. Plant, " " night " " "	60 97
689	Thomas Miller, " " fireman " "	65 00
690	Michael Hamill, " " " " "	65 00

Amount carried forward, . . . \$341,013 22

	Amount brought forward,	\$341,013 22
691	George H. DeForest, salary as time keeper at Hope Reservoir,	72 30
692	William F. Tanner, " " axeman, " "	50 40
693	Frank U. Carter, testing cement, .	60 75
694	Everett L. Belcher, " " .	33 75
695	William H. Kelley, " " .	15 00
696	Leonard N. Austin, Jr., salary as commissioners' clerk, .	66 67
697	Thomas C. Gushee, " " " " .	100 00
698	Philip S. Chase, " " " " .	150 00
699	Clinton D. Sellew, salary as secretary of water commis- sioners, .	200 00
700	Joseph J. Cooke, salary as water commissioner, .	500 00
701	Charles E. Carpenter, salary as water commissioner, .	500 00
702	William Corliss, " " " " .	500 00
703	John Purnell, care of rooms, .	57 89
704	Charles H. Pierce, paid by him for labor, .	1,028 38
705	Charles H. Pierce, paid by him for sundries, .	58 96
706	Samuel M. Gray, horse hire and paid by him for sundries, .	92 52
707	F. S. Dennis, Jr., expenses to Phillipsburg and return, &c., .	36 00
708	Providence Steam Engine Co., machinists' labor, .	80 50
709	Moulton & Ingraham, stakes, .	9 48
710	Providence & Newport Lead Works, pig tin, &c., .	13 51
711	Caleb S. Mann, balance in exchange of meters, .	13 35
712	John W. Mathewson & Co., granite, .	15 90
713	Boston Machine Co., post hydrant, .	45 00
714	John H. Eddy, pails, brooms, &c., .	33 97
715	Wm. H. Miller & Co., blacksmiths' work on tools, &c., .	177 53
716	Abbott Lawrence, expressages of meters, .	6 26
717	Mason, Chapin & Co., lamp black, oil, &c., .	73 16
718	John Mason, making patterns, &c., .	29 14
719	Providence & Newport Lead Works, lead, .	38 47
720	Bugbee & Hall, tracing paper, &c., .	42 50
721	Gladding Bros. & Tibbitts, stationery, .	74 04
722	W. J. Glover, felting, .	12 96
723	M. D. Copeland, teaming, .	15 34
724	G. & C. P. Hutchins, oil, chimneys, &c., .	30 00
725	Union Water Meter Co., water meters, .	1,638 10
		<hr/> \$346,885 07

RECEIVED FROM JUNE 1, 1874, TO AUGUST 31, 1874, INCLUSIVE,
AND PAID TO THE CITY TREASURER.

1874.

June,	2. Of Fuller Iron Works, for old iron,	\$523 19
	5. Of John Smurthurst, for three months' rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to September 1, 1874,	56 25
	8. Of Samuel M. Gray, for sundries,	9 31
	12. Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to June 12, 1874,	14 58
	27. Of Peleg P. Cranston, for three months' rent of "Randal Estate," so called, in Pawtuxet, to July 1, 1874,	50 00
	29. Of Stafford & Co., for six months rent of Pawtuxet Mill, to July 1, 1874,	400 00
	30. Of Alva Carpenter, for old iron,	52 75
July	11. Of Daniel M. Lufkin, for one months' rent of farm in Warwick, purchased of Miss Patience W. Chace, to July 12, 1874,	14 58
	25. Of City of Providence, for sewer expenses,	27 35
	27. Of Loring & Wales, for wharfage, cartage and labor,	12 75
August	4. Of Baxter Hill, for soil,	5 50
	7. Of City of Providence, for sewer expenses,	730 55
	11. Of Daniel M. Lufkin, for one months rent of farm in Warwick, purchased of Miss Patience W. Chace, to August 12, 1874,	14 58
	31. For couplings for street sprinklers, during the present quarter,	2 30
	For repairing meters during the present quarter,	68 36
	For laying service pipes during the present quarter,	683 05
	For service pipe during the present quarter,	144 14
	For water during the present quarter,	18,293 23
	For meters during the the present quarter,	4,336 75
	For penalties during the present quarter,	18 00
		<hr/> \$25,457 22

TRIAL BALANCE OF LEDGER, AUGUST 31, 1874.

Dr.

Hope Reservoir, for land,	\$124,122 80
" " sundries,	1,481 37
" " labor,	5,852 99
" " gate chambers,	8,768 72
" " drain,	404 03
" " inspection,	5,014 09
" " conduit,	2,761 84
" " slope wall,	592 56
Hope engine house,	103,019 87
" " for lights,	641 70
Hope pumping station, for coal and wood,	3,351 68
" " sundries,	385 53
Night and Sunday watch at Hope engine house,	41 23
Hope pumping station, for engineer,	502 56
" " fireman,	302 55
Sockanosset Reservoir, for construction,	177,870 72
" " sundries,	4,690 42
" " land,	16,074 35
" " watch,	2,416 75
" " gate houses,	18,590 88
" " drain,	2,481 13
" " inspection,	6,819 18
" " extra work and materials,	189 70
" " gate chambers,	19,399 27
" " improvement of grounds,	1,011 37
Line of leading mains, for labor and materials,	19,810 10
" " extra trenching, etc.,	805 95
" " land and damages,	1,665 00
Force main line, for land and damages,	3,006 35
" " labor and materials,	5,099 28
" " extra trenching, etc.,	832 56
Office furniture, stoves, gas fixtures, etc.,	1,347 39
Rent of offices,	3,450 00
Books, stationery, etc.,	1,001 25
Fuel and lights,	271 55
Horse hire by commissioners,	19 00
Traveling expenses of commissioners,	146 87
Janitor of rooms,	700 00
Clerks' salaries,	8,124 53
Commissioners' salaries,	29,708 78
Secretary's salary,	4,966 71
Sundries,	501 30
Printing,	2,365 35
Advertising,	1,815 92
Fences,	2,050 38
Stop valves,	58,206 72
Store house, work shop, and meter testing room,	1,407 36
Rent of wharves and pipe yards,	5,361 50
Linking curved pipes,	222 75
Amount carried forward,	\$658,842 67

REPORT OF THE WATER COMMISSIONERS.

27

Amount brought forward,	\$656,642 67
Tools,	9,223 74
Labor on pipes,	17,805 79
Cast iron water pipes,	1,911,023 36
Special castings,	91,106 45
Lumber,	1,576 30
Fire hydrants,	93,152 27
Sockanosset hill cross road,	3,855 38
Pettaconset and Sockanosset telegraph line,	1,887 99
Dwelling houses at Pettaconset,	9,621 71
Culverts and bridge on line of force mains,	6,775 23
Culverts at Pettaconset,	2,557 92
Real estate in Warwick,	12,118 04
Water privileges, mill, and other real estate in Pawtuxet,	50,231 96
Pochasset bridge,	5,559 82
Wharf salaries,	7,757 80
Temporary engine house at Pettaconset,	9,718 09
Roads, slopes, etc., at Pettaconset,	11,902 45
Engine house at Pettaconset,	217,745 62
Natural filter basin,	32,594 50
Removing loam,	462 95
Iron screw piles,	2,766 46
Hydrant bolts,	1,635 98
Pipe bolts,	1,622 23
Photographs,	284 25
Hydrant heads,	7,448 00
Taps and stops,	12,825 24
Valve covers,	7,462 20
Service pipe,	27,289 84
Hydrant boxes,	26,197 41
Setting fire hydrants,	9,844 04
Check valves,	1,412 48
Valve boxes,	27,921 67
Air cocks, boxes, covers and setting,	509 05
Night and Sunday watch at engine house,	1,702 93
Pettaconset pumping station, for sundries,	3,205 02
" " " engineer,	4,169 53
" " " coal and wood,	26,281 79
" " " labor on fuel,	1,848 25
" " " firemen,	4,227 08
" " " land,	26,386 77
Setting blow-offs,	299 66
Ascertaining and removing nuisances on Pawtuxet river	479 46
Taunton Brick Co.,	2,000 00
G. B. & W. F. Inman,	10,660 00
Lobdell & Newmans,	91,200 00
A. & W. Sprague Manufacturing Co.,	2,500 00
Paulding, Kemble & Co.,	86,535 00
W. A. Burdick, Agent,	30,659 10
Thomas Phillips & Co.,	1,050 00
Samuel M. Gray,	2,400 00
Heirs of Joseph Harris,	446 81
City of Providence, fountain, Abbott park,	708 74
City of Providence, public market,	12 00
City Treasurer,	133,189 52
City Treasurer, for water payments,	246,215 25
Amount carried forward,	\$3,229,578 05

Amount brought forward,	\$3,329,578 05
Testing pipe iron,	443 50
Iron drain pipes and gate,	234 31
Carting pipes,	33,459 33
Counsel fees,	6,500 00
Inspection of pipes,	9,786 01
Testing bolts and composition castings,	84 25
Laying water pipes,	331,536 13
Laying service pipes,	25,911 94
Laying suction pipe, etc.,	85 00
Drainage pump and engine,	4,083 54
Hydrants for street sprinklers,	2,134 54
Boston hydrants,	17 33
Inspection of pipe laying,	25,147 58
Temporary boarding house at Pettaconset,	1,240 34
Public drinking fountains and troughs,	1,067 31
Water meters,	46,741 68
Water meters set, belonging to the city,	1,258 73
Setting, inspection and repair of meters,	346 99
Inspection of water fixtures,	2,515 33
Warwick test pits,	1,231 98
Miller boilers at Pettaconset,	94 34
Worthington pumping engine,	41,453 38
Hope pumping engine,	62,534 36
Cornish pumping engine,	7,637 40
Keeper's house at Sockanosset reservoir,	1,114 33
Change of grades,	361 86
Post hydrant, Brook street district,	64 86
	<hr/>
	\$3,837,363 47

ENGINEERING DEPARTMENT :—

For instruments,	\$2,836 09
Tools,	696 29
Furniture, stoves, gas fixtures, etc.,	2,760 27
Draughting,	3,523 53
Books, stationery, etc.,	3,023 13
Labor,	6,587 07
Horse and wagon account,	1,744 63
Horse keeping, shoeing, etc.,	1,575 96
Horse hire,	3,998 40
Rent of offices,	7,390 61
Fuel and lights,	676 92
Janitor of rooms,	1,391 50
Experimental filter,	91 08
Sundries,	2,837 13
Test wells,	1,579 40
Consultations,	837 08
Office building at Pettaconset,	553 21
" " Sockanosset reservoir,	563 23
Stakes and strips,	779 60
Printing,	537 56
Maps,	86 67
Service pipe experiments,	295 76
Temporary assistance,	7,661 77
Salaries,	125,459 01
	<hr/>
	177,354 98
Amount carried forward,	<hr/>
	\$4,015,308 45

REPORT OF THE WATER COMMISSIONERS.

29

Amount brought forward, \$4,015,208 45

Ca.

Hope reservoir, for land, (rents received and buildings, etc., sold),	5,893 15	
Sockanoeset reservoir, for land, (rents received and wood, etc., sold,)	1,534 49	
Real estate in Warwick, (rents received),	1,131 34	
Water privileges, mill, and other real estate in Pawtuxet, (rents received),	3,839 53	
Pettaconset pumping station, for land, (rents received),	487 39	
J. B. & J. M. Cornell,	1,000 00	
Warren Foundry and Machine Co.,	4,195 00	
Gloucester Iron Works,	7,490 47	
Interest,	54 66	
Water meters,	47,054 80	
Penalties,	186 00	
Water,	246,315 25	
Approved bills,	3,696,126 47	
		\$4,015,208 45

**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO SEPTEMBER 1st., 1874.**

MONTH.	1872.	1873.	1874.
January.....	.....	\$40,699 09	\$69,356 70
February	796 06	4,314 80	3,678 96
March.....	6,671 82	6,669 73	9,221 19
April.....	1,668 59	2,810 07	4,936 98
May.....	2,063 41	1,766 28	2,338 59
June	8,634 89	8,228 92	2,583 35
July.....	3,488 27	6,214 24	13,756 51
August	1,818 14	1,441 09	1,953 37
September	4,933 44	7,550 64	.....
October	5,079 08	8,745 53	.....
November.....	477 04	872 83	.....
December.....	5,372 77	8,072 87	.....
	\$41,008 51	\$97,396 09	\$107,825 65

1873-74.]

CITY DOCUMENT.

[No. 126.]

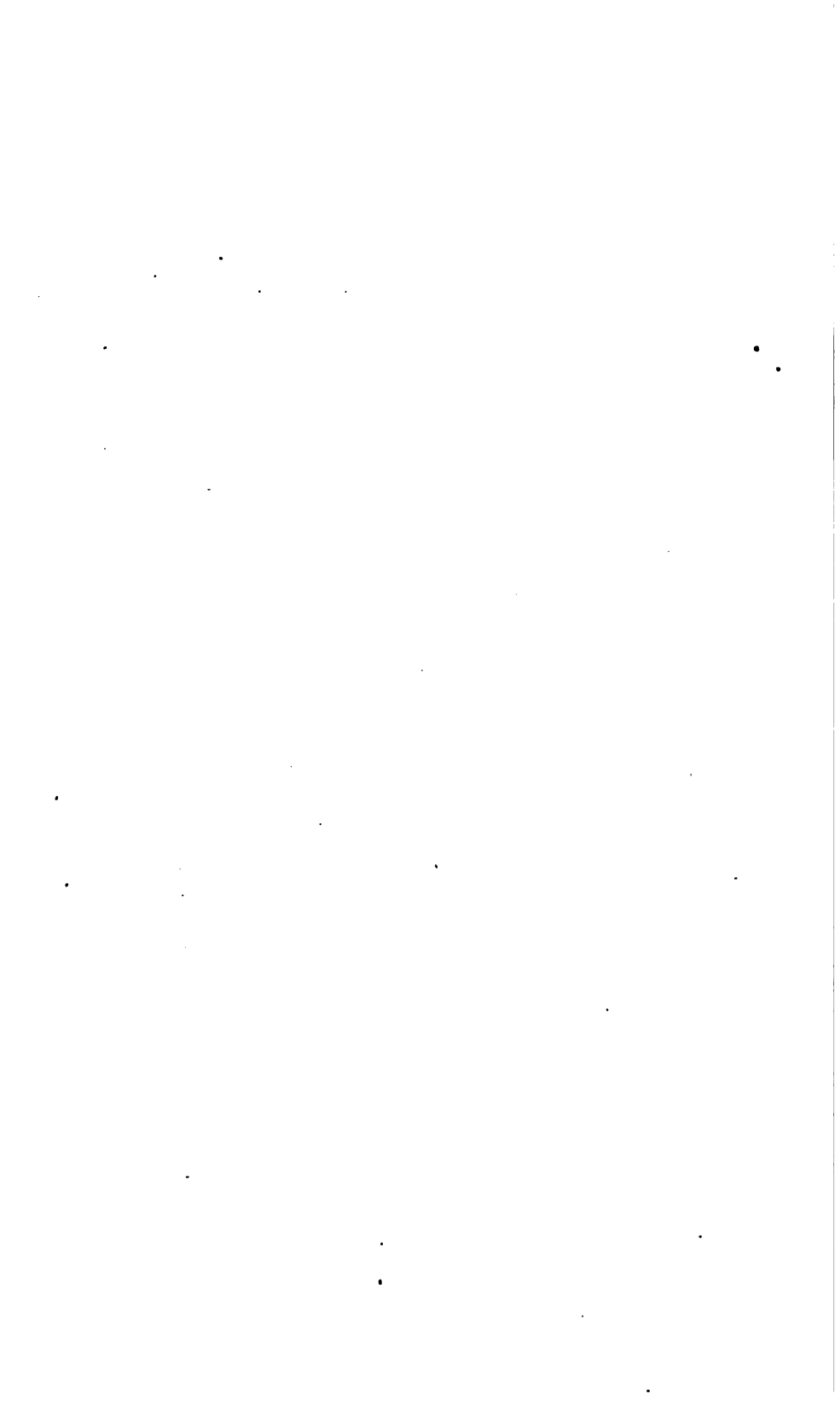
THIRD QUARTERLY REPORT
OF THE BOARD OF
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE,

(Elected February 27, 1874.)

DECEMBER 1, 1874.



PROVIDENCE:
HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.
1874.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

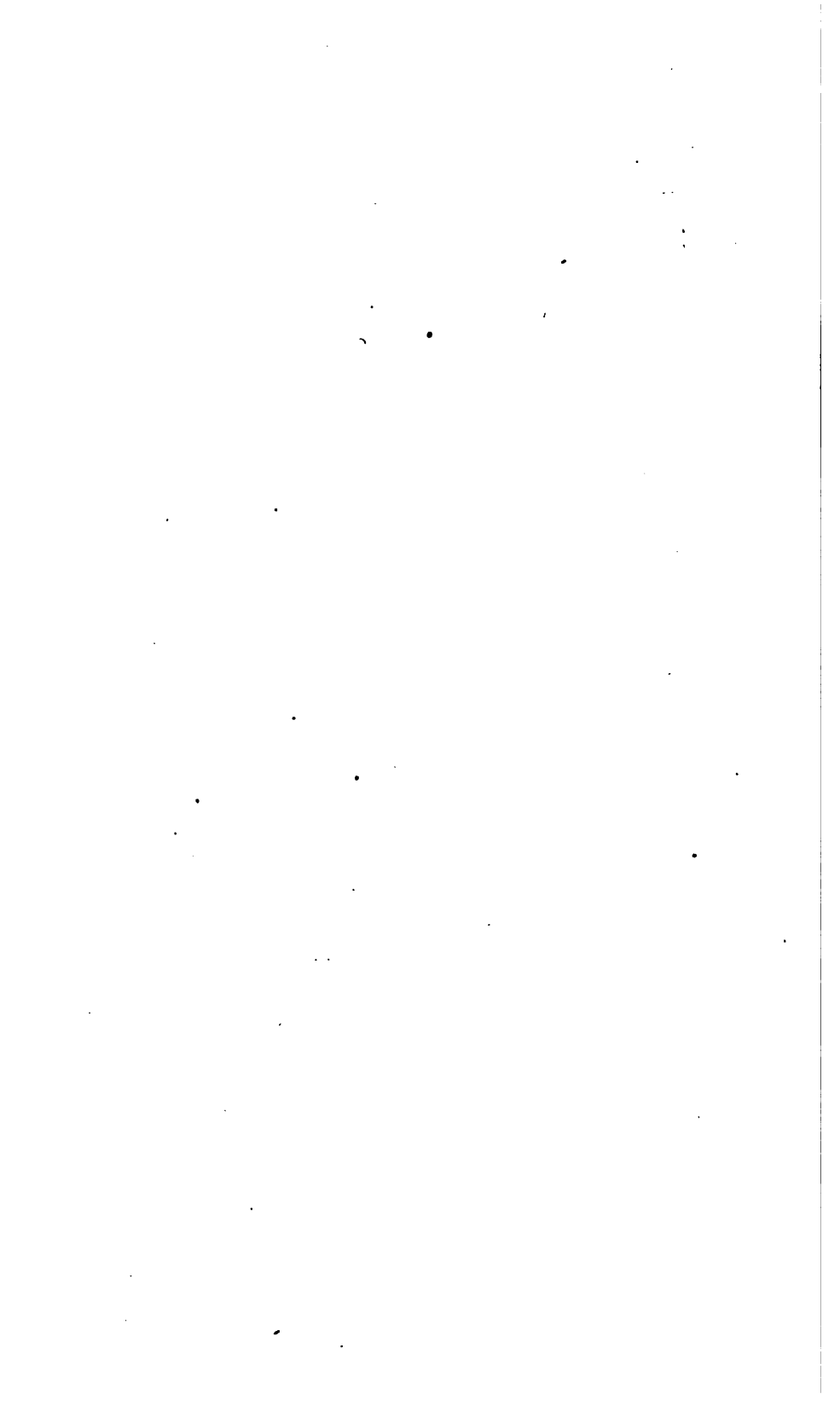
BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

CLINTON D. SELLEW.
Office No. 35 North Main street.

CHIEF ENGINEER.
J. HERBERT SHEDD.
Office No. 35 North Main street.



REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
Providence, R. I., December 1, 1874. }

TO THE HONORABLE THE CITY COUNCIL :—

The undersigned Water Commissioners, elected February 27th, 1874, under "An ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their Third Quarterly Report :

Edward A. Moran has been appointed Inspector of Water Meters, with a salary at the rate of one thousand dollars per annum, dating from October 2, 1874.

Albert C. Winsor has been appointed temporary assistant Inspector of water fixtures, with a compensation of three dollars per day, dating from September 7, 1874.

George H. Slade, assistant engineer, resigned September 15, 1874.

An offer of E. M. Hunt, to furnish from one to two hundred barrels cement, delivered at Pettaconset, for \$1.58 per barrel, was accepted.

An offer of W. A. Burdick, Agent, to furnish granite for gate house at Hope Reservoir, delivered at the foot of the embankment, for seventeen hundred and twenty-eight dollars, has been accepted.

An offer of Charles P. Chapman, to furnish two flights of steps and buttresses for Hope Reservoir, delivered at the foot of the embankment, for the sum of eighteen hundred and fifty dollars, has been accepted.

An offer of Henry Taylor, to paint the temporary engine and boiler house at Pettaconset, inside and outside ; also the engine, pumps, etc., with two coats of paint, for the sum of one hundred and eighty-five dollars, has been accepted.

An offer of the Builders' Iron Foundry, to furnish and put in place, four double iron window frames and spandrels in end windows of engine house at Pettaconset, and paneling at bottom of same, for the sum of nine hundred and sixty dollars, has been accepted.

An offer of the Architectural Iron Works of New York, to furnish and put up the roofs for the engine-house and boiler house at Pettaconset, for the sum of thirty thousand four hundred and forty-eight 65-100 dollars, has been accepted.

An offer of the Architectural Iron Works, of New York, to furnish and erect two flights of circular stairs from the main floor to the lower floor of Pettaconset engine house, for the sum of three hundred and seventy-five dollars each, has been accepted.

An offer of James Glass, of Boston, to do the slating for roofs of engine house and boiler house at Pettaconset, (furnishing all the materials,) for the sum of twenty 25-100 dollars per square, has been accepted.

An offer of Thomas Phillips & Co., for furnishing and putting up copper gutters and conductors, for engine house and boiler house at Pettaconset, as follows :

24 oz. copper gutters for engine house at	\$1.78	per foot.
20 " " conductors, " " "	.85	" "
24 " " gutters, for boiler house " "	1.54	" "
20 " " conductors, for " " "	.80	" "

has been accepted.

A contract has been executed with Rhode Island Locomotive Works, for furnishing and delivering at Pettaconset, five Lancashire boilers, and for furnishing and erecting an overflow stand-pipe, at same place. The sum to be paid for the boilers is eighteen thousand dollars, and for the stand-pipe, twelve thousand dollars.

A contract for furnishing and erecting a second pumping engine at Hope Station has been executed with the Providence Steam Engine Co. The price to be paid for the engine is fifty-five thousand dollars. By the terms of the contract the engine is to be erected and ready for service before July 1, 1875.

On the 28th day of October last, proposals for furnishing 300 tons cast iron water pipes, were opened, and were all rejected. A contract has since been executed with the Warren Foundry and Machine Company, of Phillipsburg, N. J., for furnishing these pipes at \$44.00 per ton of 2240 pounds.

Hope Reservoir is nearly completed, and has been partially filled with water, to protect the bottom from injury by frost. About six weeks' work will be required in the spring.

The iron roof of the engine house at Pettaconset is now being erected.

The laying of the second line of leading mains has been completed, and is now in use in connection with the first line.

The second line of force mains has been nearly completed.

Parts of the Cornish engine are now on the ground, and workmen are now preparing for its erection.

The average daily consumption of water during the last quarter, has been about 1,817,000 gallons.

Plumber's licenses have been issued as follows :

George S. Davenport,
James F. McLaughlin,
John McCaffrey,

Henry Blundell,
Alexander Eccles,
Charles R. Blackmar.

The plumber's license issued to David L. Rea, has been revoked for deliberate transgression of rules.

On the 26th day of October, 1874, the bondsmen for James F. McLaughlin withdrew, and his license was suspended until another satisfactory bond should be filed. This has not yet been done.

The whole number of plumbers' licenses issued is fifty-three. Suspended one. Revoked one. Remaining in force, fifty-one.

The following statement shows the length of pipes laid during the last quarter; the sizes of the pipes; where laid, and the totals since the commencement of the work:

36 INCH.

On Force Main Line, -	-	-	-	4,768 feet.
Previously, -	-	-	-	5,006 feet.
Total, -	-	-	-	<u>9,774 feet.</u>

30 INCH.

In Reservoir avenue, -	-	-	-	12,651 feet.
Including 145 cut pipes, 8 branches and 3 gates.				
Previously, -	-	-	-	46,175 feet.
Total, -	-	-	-	<u>58,826 feet.</u>

20 INCH.

In Adelaide avenue, -	-	-	-	44 feet.
Including 1 cut pipe, 2 curved pipes and 1 gate.				
Previously, -	-	-	-	6,560 feet.
Total, -	-	-	-	<u>6,604 feet.</u>

16 INCH.

In Potter's avenue, - - -	3,358 feet.
Including 11 cut pipes, 1 curved pipe, 27 branches and 3 gates.	
Previously, - - -	18,175 feet.
Total, - - -	<u>21,533 feet.</u>

12 INCH.

In Hope and Angell streets, - -	1,588 feet.
Including 13 cut pipes, 3 curved pipes and 11 branches.	
Previously, - - -	25,654 feet.
Total, - - -	<u>27,237 feet.</u>

10 INCH.

In Candace street, - - -	864 feet.
Including 30 cut pipes and 4 branches.	
Previously, - - -	8,459 feet.
Total, - - -	<u>8,823 feet.</u>

8 INCH.

In Acorn, Candace, Hope and Martin streets, and in Reservoir and Butler avenues, -	6,580 feet.
Including 26 cut pipes, 30 branches, 5 curved pipes and 17 gates.	
Previously, - - -	62,778 feet.
Total, - - -	<u>69,358 feet.</u>

6 INCH.

In Aborn, Bath, Bernon, Brighton, Cabot, Calender, Candace, Clemence, Clinton, Constitution, Francis, Gesler, Gilbert, Hammond,

Howard, Laura, Lincoln, Meeting, Norfolk, Olrey, Parade, Perry, Preston, Sherburne, Smith, Spruce, Waverly and Vinton streets, and in Bellevue, Butler, Howard and Hum- boldt avenues, in Earl's lane, and for City Machine Co. and Nicholson File Co.,						-	14,594 feet.
Including 56 cut pipes, 46 branches and 38 gates.							
Previously,	-	-	-	-	-	-	336,022 feet.
Total,	-	-	-	-	-	-	350,616 feet.
Total of all sizes during the last quarter, or 8.3223 miles.						-	43,942 feet.
Previously, including 24 inch, of which none has been laid during the last quarter,						-	531,889 feet.
Total,	-	-	-	-	-	-	575,831 feet.
or 109.0589 miles.							

Twenty-eight fire hydrants have been set during the last quarter; one in each of the following locations:—

Aborn	street,	north-west	corner of	Merrill street.
"	"	north-east	"	Hicks "
Acorn	"	south-east	"	Woonasquatucket av- enue.
"	"	east side,	about 120 feet north of	Tingley street.
"	"	north-east	corner of	Harris avenue.
Angell	"	north-west,	"	Butler "
Bernon	"	north side,	about half way between	Douglas avenue and Candace street.
Candace	"	north-east	corner of	Chalkstone avenue.
Foster	"	west side,	half way between	Broad and Pine streets.
Hammond	"	west side,	half way between	Division and Gilbert streets.
"	"	south-east	corner of	High street.

Hope	street,	north-west corner,	Meeting street.
"	"	"	" Lloyd "
Howard	"	"	" Hill "
Perry	"	west side, 103 feet north of	High street.
"	"	154 "	south of Broadway.
Potter's	avenue,	south-east corner of	Noyes street.
"	"	"	" Jackson avenue.
"	"	"	" Chambers street.
"	"	"	" Grand "
"	"	"	" Maiden lane.
"	"	"	" Bucklin street.
"	"	"	" Wheaton avenue.
"	"	south side, half way between	Madison and
		Vineyard streets.	
Vinton	street,	north-west corner of	Brighton street.
Waverly	"	south side, 205 feet east of	Cranston street.
"	"	" 599 "	" " "
"	"	" 1,000 "	" " "

The total number of fire hydrants is now eight hundred and six.

The height of water in Sockanosset Reservoir at 7 o'clock this morning was 180.06. High water in the reservoir is 180.50 (above high tide in Providence river.)

One hundred and eighty Ball & Fitts' water meters, made by the Union Water Meter Company, and five water meters made by Fales, Jenks & Sons, have been put in at the expense of water takers since the date of the last report. One $\frac{3}{4}$ inch water meter made by the Union Water Meter Company was set, November 4, at the expense of the city, and one one-inch water meter made by Fales, Jenks & Sons, previously set at the expense of the city, has been taken out for non-use. One water taker has changed a three-quarter inch water meter, made by the Union Water Meter Company, for a one-inch meter of the same make.

There are now seventeen hundred and ninety-nine water meters in use, viz. :

KIND.	SIZES.						TOTALS.
	$\frac{5}{8}$ inch.	$\frac{3}{4}$ inch.	1 inch.	1 $\frac{1}{4}$ inch.	2 inch.	4 inch.	
Ball & Fitts...	1247	224	83	45	9	1	1609
Worthington...	170	.....	.....	.....	.....	1	171
Fales, Jenks & Sons. ....	.....	.....	19	.....	.....	.....	19
	1417	224	102	45	9	2	1799

The total number of applications for a supply of water is five thousand seven hundred and twenty-three.

The number of service stops opened during the last quarter is four hundred and eighty-four; eight of which are for fire purposes only.

The total number of service stops opened to date is forty-seven hundred and fifty-seven.

Five stops have been closed during the last quarter for non-payment of bills, four of which have been re-opened on payment of the bills and a penalty in each case of two dollars. Five stops previously closed for non-payment have been re-opened during the last quarter, and in each case a penalty of two dollars was paid. Twenty-three stops closed for non-payment remain unopened. Eighty-eight stops in all are closed. There are forty-six hundred and sixty-four service stops now in actual use.

Water is now supplied for the following uses:—

3 armories; 8 bakeries; 31 banks; 66 bar rooms; 1 bath house; 1 bath house—Turkish; 114 boarding houses; 7 bottling establishments; 46 building purposes; 1 car house; 3

carriage depositories; 1 Christian Union; 22 churches; 1 city barn; 1 city bridge, Point street; 1 city building; 5 city drinking fountains; 18 city drinking troughs; 806 city fire hydrants; 8 city fire steamer stations; 2 city hose houses; 6 club rooms; 13 coal yards; 1 colored shelter; 1 conservatory of music; 3 convents; 1 court house; 1 decorator; 1 Dexter Asylum; 2040 dwellings of one family; 1745 dwellings of two families; 161 dwellings of three families; 185 dwellings of four families; 25 dwellings of five families; 35 dwellings of six families; 3 dwellings of seven families; 6 dwellings of eight families; 1 dwelling of nine families; 1 dwelling of twelve families; 2 dye houses; 3 elevators; 1 engine turner; 2 engravers; 1 express carriage house; 51 fire supplies—private; 50 fountains, private; 1 fountain—public; 1 furrier; 2570 garden and street hydrants; 4 gas holders; 7 gold and silver platers; 5 gold and silver refiners; 2 grain elevators; 27 green houses; 11 halls; 1 hall of Latter Day Saints; 1 home for aged women; 1 hospital; 15 hotels; 1 infirmary; 2 laundries; 1 lithographer; 8 lodging houses; 2 lumber dealers. *Manufacturing establishments*,—2 belt and picker; 3 blank book; 2 bleacheries; 1 Bologna sausage; 1 bonnet bleachery; 2 boot and shoe; 1 box; 1 braiding works; 2 brass foundries; 1 brewery; 1 brush; 2 butt; 1 butter; 8 carriage; 2 cement pipe; 1 chain; 6 cigar; 1 cigar box; 16 cloak and dress; 1 coffin; 6 confectionery; 1 corset; 3 colorers of jewelry; 7 cotton; 1 crocus; 1 distillery; 3 die sinkers; 1 dye wood; 1 emery wheel; 1 enameller of jewelry; 1 eyelet; 3 file; 7 furniture; 1 gas; 1 gas burner; 4 gas fixtures; 1 geer; 2 hat; 4 harness; 1 horse shoe; 2 ice cream and soda water; 1 ink; 1 iron company; 1 iron fence; 10 iron foundries; 1 japan switch; 1 jewelers' cards; 79 jewelry; 4 lapidaries; 25 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 1 paper box; 1 paper collar; 3 paper cop tube; 1 pattern; 3 patent medicine; 3 picture frame; 2 pump; 2 reed; 1 rubber tubing; 4 sash and blind; 2 screw; 1 sheet iron; 2 shirt; 3 silver ware; 5 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engines; 1 stencil plate; 1 stove; 2 tanners; 1 thread; 1 tin; 4 tool; 3 top roll; 6 woolen goods; 1 yeast. *Markets*,—39 fish; 95 meat.

Mills,—2 drug and grain ; 3 flour and grain ; 1 paint ; 9 planing ; 5 marble works ; 1 Music Hall ; 1 nickle plater ; 16 not classed ; 3 Odd Fellows' halls ; 1 Opera House ; 2 Orphan Asylums ; 5 organs ; 5 oyster houses ; 481 offices ; 10 photographers ; 10 printing establishments ; 6 plaster and stucco workers ; 9 plumbers ; 9 provision curers and packers ; 6 police stations ; 7 railroads ; 1 reading room ; 40 restaurants ; 1 roofer. *Saloons*,—5 billiard ; 3 bowling ; 6 ice cream ; 12 lager beer ; 9 oyster. *Schools*,—1 boarding ; 12 private ; 31 public ; 1 reform. *Shops*,—34 barber ; 7 blacksmith ; 11 carpenter ; 3 cooper ; 1 junk ; 12 paint ; 5 shoemaker ; 21 tailor ; 5 tinman. *Stables*,—6 hack ; 41 livery ; 237 private ; 4 sale ; 63 work. 13 steamboats ; 13 steamships ; 5 steam and gas pipe fitters. *Stores*,—1 agricultural implement ; 38 apothecary ; 1 auction ; 4 book ; 27 boot and shoe ; 2 carpet ; 2 carriage trimmings ; 11 cigar ; 19 clothing ; 8 confectionery ; 3 drug ; 38 dry goods ; 80 fancy goods ; 11 flour and grain ; 11 fruit ; 11 furniture ; 10 gent's furnishing goods ; 118 grocery,—retail ; 15 grocery,—wholesale ; 8 hardware ; 2 hide and leather ; 2 hoop skirt ; 10 house furnishing goods ; 4 house paper ; 3 iron and steel ; 10 jewelry ; 11 liquor ; 1 lime and brick ; 2 manufacturers' supplies ; 31 millinery ; 10 newspaper ; 3 oil and paint ; 2 paper and paper stock ; 1 piano forte ; 7 produce,—wholesale ; 3 sewing machines ; 4 stationery ; 2 stove ; 3 tea ; 2 trunk ; 1 toy ; 1 umbrella ; 1 wooden ware ; 1 wool ; 2 woollen goods. 1 State prison ; 1 storehouse ; 5 undertakers ; 1 United States Custom House building ; 2 upholsters ; 2 water boats ; 1 wheelwright ; 1 wood turner ; 3 wood yards.

The amount of expenditures during the last quarter, is	-	-	-	\$272,288 89
The total amount of expenditures, is	-	-	-	3,968,415 36
The total amount of appropriation, is	-	-	-	4,000,000 00
The unexpended balance, is	-	-	-	31,584 64

The cost of construction to date, (deducting from the whole amount of approved bills, the

cost of maintenance, the amount received for labor and materials, etc. ; meters; from sewer department for office expenses ; estimated amount due from sewer department for engineering, etc., and adding amount of reservations due to contractors,) is - - - 3,691,950 96
 The cost of maintenance to date, is - - 90,686 52

The amount received during the last quarter, all of which has been paid to the City Treasurer, is

For water supplies,	-	\$16,150 32	
For water meters,	-	5,165 27	
For penalties,	-	18 00	
For sundries,	-	17,494 00	
		<hr/>	38,827 59

The amount received for water in 1872, was	41,008 51
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The amount received for water in 1873, was	97,386 09
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The amount received for water during the first eleven months of 1874, is	-	123,975 97
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The total amount received for water to date, is	262,365 57
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The amount of all receipts to date, is	-	423,232 36
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The additional appropriation asked for November 16, will soon be needed.

A schedule of bills approved during the last quarter, and of receipts during the same time, and a trial balance of ledger November 30, 1874, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers, will be presented.

JOSEPH J. COOKE,	} <i>Board of Water Commissioners.</i>
CHAS. E. CARPENTER,	
WILLIAM CORLISS,	

**SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER
COMMISSIONERS, FROM SEPTEMBER 1, 1874, TO NOVEMBER
30, 1874, INCLUSIVE.**

726	Cattanach & Cliff, painting and bronzing Abbott Park Fountain,	\$40 00
727	Steamer Middlesex, freight of water pipes, (charged to Warren Foundry & Machine Co.,)	437 72
728	Fales, Jenks & Sons, water gates, taps and stops, &c.,	6,123 78
729	Taunton Brick Co., on account for bricks delivered,	2,500 00
730	George W. Smith, cutting curbstones for hydrant boxes,	16 00
731	Gideon G. Hicks, boiler iron, rivets and labor,	32 96
732	Samuel M. Gray, paid by him for labor at Hope Reservoir, &c.,	85 27
733	Samuel M. Gray, " " " Pettaconset, &c.,	6,635 54
734	" " " on account for payments for labor at Pettaconset,	1,000 00
735	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	4,650 00
736	G. B. & W. F. Inman, carting pipes,	1,298 97
737	G. B. & W. F. Inman, setting fire hydrants, repairing streets and lowering water pipes, on account of change of grades,	620 00
738	Lobdell & Newmans, on account for construction of Hope Reservoir,	11,850 00
739	Lobdell & Newmans, extra labor and materials at Hope Reservoir,	319 83
740	W. A. Burdick, Agent, granite,	1,694 00
741	W. A. Burdick, Agent, granite,	277 00
742	W. A. Burdick, Agent, granite,	4,296 03
743	Taunton Brick Company, bricks,	1,290 00
744	Fuller Iron Works, valve boxes and special castings,	933 06
745	Builder's Iron Foundry, valve covers and special castings,	348 80
746	Alva Carpenter, " " "	59 20
747	Providence Steam Engine Co., machinists' labor, &c.,	139 14
748	Kilburn, Lincoln & Co., labor and materials for derrick and truck,	84 43
749	Providence Builders' Association, cement,	300 30
750	Edward L. Tracey, use of carpenters' tools,	13 00
751	W. P. Knickerbocker & Co., rope,	43 41
752	Daniel F. Burlingame, blacksmith's work on tools, &c.,	114 48
753	Schooner Edwin Post, freight of water pipes, (charged to Warren Foundry & Machine Co.,	109 47
754	Paulding, Kemble & Co., on account for constructing pumping engine,	7,180 00
755	Charles H. Pierce, paid by him for labor,	295 03
756	Dexter Gorton & Co., lumber, carpenters' work, &c.,	597 43
	Amount carried forward,	<u>\$53,383 87</u>

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,			\$53,383 87
757	Hopkins & Pomroy, coal, lime and carting bricks,	-	1,946 37
758	Wm. H. Miller & Co., blacksmiths' work on tools, &c.,	-	44 71
759	Gloucester Iron Works, cast iron water pipes,	-	22,474 68
760	Wood & Winsor, gauges, nipples, tees, elbows, labor, &c.,	-	173 03
761	Warren Foundry & Machine Co., cast iron water pipes,	-	10,495 06
762	J. B. & J. M. Cornell, reservation in bill for roofs,	-	1,000 00
763	W. A. Burdick, Agent, granite,	-	4,597 69
764	Schooner Fashion, freight of water pipes, (charged to Warren Foundry & Machine Co.,)	-	61 50
765	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	500 00
766	Charles H. Pierce, salary as assistant engineer,	-	250 00
767	Samuel M. Gray, " " " " &c.,	-	335 00
768	Otis F. Clapp, " " " " "	-	208 33
769	Howard A. Carson, " " " " "	-	208 33
770	William T. Schneider, " " " " "	-	100 00
771	C. Frank Allen, " " " " "	-	100 00
772	John E. Bowen, " " " " "	-	100 00
773	Lucius J. Sampson, " " " " "	-	100 00
774	George H. Slade, " " " " "	-	61 27
775	Daniel D. Waterman, " " " " "	-	83 33
776	Leprillets Sweet 2d., " " " " "	-	83 33
777	Edmund B. Weston, " " " " "	-	83 33
778	Henry N. Francis, " " " " "	-	83 33
779	William F. Janes, " " service pipe engineer,	-	83 33
780	Augustus F. Nagle, " " mechanical " "	-	200 00
781	Edwin P. Dawley, " " student, engineering department,	-	41 67
782	Charles M. Hunt, " " " " " "	-	33 33
783	Frank B. Ferris, " " " " " "	-	33 33
784	Thomas L. Botts, " " " " " "	-	33 33
785	William H. Olmstead, " " " " " "	-	33 33
786	Wm. M. Brown Jr., " " " " " "	-	41 67
787	Daniel C. Stone, " " " " " "	-	41 67
788	George B. Francis, " " " " " "	-	25 00
789	Charles A. Harper, " " " " " "	-	25 00
790	Walter F. Slade, " " service pipe clerk, engineering dep't.,	-	83 33
791	William Aplin, " " clerk, engineering department,	-	83 33
792	William H. Turner, " " " " " "	-	100 00
793	Irving H. Potter, " " " " " "	-	58 50
794	Andrew B. Purdy, " " superintendent of pipe work,	-	166 67
795	George Bowers, " " inspector on pipe line,	-	104 00
796	Foster S. Dennis, Jr., " " " " " "	-	104 00
797	S. Horace Wheeler, " " inspector of service pipes,	-	125 00
798	Henry M. Wilcox, " " assistant inspector of service pipes,	-	100 00
799	Samuel R. Eccleston, " " inspector of pipes,	-	119 00
800	Burrows Chace, " " " at Hope Reservoir,	-	130 00
801	Richard K. Randolph, " " " " " "	-	130 00
802	Alexis C. Miller, " " " " " "	-	105 00
803	George W. Mitchell, " " " " " "	-	115 00
Amount carried forward,			\$98,588 65

	Amount brought forward,	-	\$28,588 65
804	Rencellaer B. S. Hart,	salary as inspector at Hope Reservoir,	115 00
805	Frederic A. Arnold,	" " of water fixtures,	100 00
806	Albert C. Winsor,	" " temporary assistant inspector of water fixtures,	- 60 00
807	William G. Budlong,	" " inspector of meters,	- 83 33
808	Mark Willmarth,	" " tempor'y ass't, engineering d'pt,	2 60
809	Frank E. Wiggin,	" " " " " "	6 75
810	J. H. C. Smith,	" " " " " "	52 00
811	Everett L. Belcher,	" " " " " "	10 00
812	Albert E. Angell,	" " " " " "	31 25
813	George W. Winsor, Jr.,	" " " " " "	39 00
814	Henry G. Dennis,	" " superintendent of pipe yard,	125 00
815	Richard M. Wood,	" " clerk at pipe yard,	- 66 67
816	Jeptha Baker,	" " keeper of Sockanosset Reservoir,	75 00
817	George F. Battey,	" " pumping engineer at Pattaconset,	100 00
818	John Hamilton,	" " fireman at Pattaconset	- 80 00
819	George F. Barney,	" " " " " "	- 60 00
820	John Quinn,	" " pumping engineer at Hope station,	125 00
821	Joseph F. Plant,	" " " " " "	- 90 00
822	Thomas Miller,	" " fireman at Hope station,	- 65 00
823	Michael Hamill,	" " " " " "	- 67 10
824	George H. DeForest,	" " time keeper at Hope Reservoir,	93 45
825	William F. Tanner,	" " axeman,	- 50 00
826	Leonard N. Austin, Jr.,	" " commissioners' clerk,	- 66 67
827	Thomas C. Gushee,	" " " " " "	- 100 00
828	Phillip S. Chase,	" " " " " "	- 150 00
829	Clinton D. Sellow,	" " secretary of water commissioners,	200 00
830	John Purnell,	care of rooms, -	- 60 37
831	Charles H. Pierce,	paid by him for sundries,	- 180 13
832	Charles H. Pierce,	" " for labor, -	- 1,036 44
833	Samuel M. Gray,	" " for horse hire and sundries,	93 97
834	Providence Gas Co.,	gas, - - -	- 195 00
835	Allen Waite,	carting bricks, -	- 30 00
836	G. W. Black,	use of team, including all damages,	12 00
837	B. F. Almy,	coop waste, -	- 13 00
838	Tingley Marble Co.,	rubbing bricks, -	- 10 00
839	W. P. Knickerbocker & Co.,	rope, - - -	- 36 45
840	John Salisbury,	labor on derrick, -	- 30 30
841	L. H. Tillinghast & Co.,	solder, &c., -	- 150 48
842	Chaffee & Rider,	oil, &c., -	- 20 25
843	Clyde's Iron Line of Steamships,	freight of iron beams,	
	(charged to Phoenix Iron Co.,)	- - -	- 60 83
844	N. Webber,	rubber boots, -	- 31 50
845	Providence Steam Engine Co.,	machinists' labor, &c.,	- 61 82
846	John A. Moore,	teaming, &c., -	- 25 10
847	W. A. Burdick, Agent,	granite, -	- 60 69
848	Union Water Meter Co.,	water meters, -	- 1,223 50
849	Schooner Fashion,	freight of water pipes, (charged to Warren Foundry and Machine Co.,)	- 67 64
	Amount carried forward,		\$103,957 03

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	-	-	\$103,957 03
860	H. B. Bowen,	pipe bolts and hydrant bolts,	-	-	110 87
851	E. M. Hunt,	cement,	-	-	156 43
852	Samuel M. Gray,	paid by him for labor at Pettaconset, &c.,	-	-	6,576 43
853	Samuel M. Gray,	on account for payments for labor at	-	-	500 00
	Pettaconset,	-	-	-	-
854	Samuel M. Gray,	paid by him for labor at Hope Reser-	-	-	-
	voir, &c.,	-	-	-	89 35
855	W. A. Burdick, Agent,	granite,	-	-	4,556 25
856	Paulding, Kemble & Co.,	on account for constructing pumping	-	-	-
	engine,	-	-	-	11,250 00
857	G. B. & W. F. Inman,	trenching and back-filling and laying	-	-	-
	water pipes,	-	-	-	8,225 00
858	G. B. & W. F. Inman,	hauling pipes,	-	-	1,077 29
859	G. B. & W. F. Inman,	setting fire hydrants, repairing streets,	-	-	-
	laying water pipes, &c.,	-	-	-	397 00
860	Lobdell & Newmans,	on account for const. of Hope Reservoir,	-	-	8,250 00
861	Lobdell & Newmans,	extra labor and materials at Hope Res'vr	-	-	110 35
862	Allen Waite,	carting bricks,	-	-	33 00
863	Hopkins & Pomroy,	coal, lime, carting bricks, &c.,	-	-	1,702 96
864	Providence & Newport	Lead Works, lead,	-	-	30 42
865	W. B. M. Stillman,	repairing rubber boots,	-	-	5 80
866	Tuttle & Hobbs,	horse keeping,	-	-	171 79
867	Wm. H. Miller & Co.,	blacksmith's work on tools,	-	-	34 84
868	Kinnecom & Co.,	use of derrick, &c.,	-	-	47 00
869	Fuller Iron Works,	special castings and valve boxes,	-	-	865 79
870	William D. Gelette,	use of engineer's instruments,	-	-	17 50
871	Providence Builders' Association,	cement,	-	-	111 02
872	Edward L. Tracey,	use of carpenters' tools,	-	-	13 00
873	Providence Press Co.,	advertising,	-	-	59 75
874	Knowles, Anthony & Danielson,	advertising,	-	-	53 35
875	Abbott Lawrence,	carting meters,	-	-	4 91
876	Alva Carpenter,	valve covers,	-	-	258 33
877	George W. Smith,	cutting curbstones for hydrant boxes,	-	-	18 00
878	Thomas Phillips & Co.,	tin lined lead pipe,	-	-	2,875 71
879	M. D. Copeland,	teaming,	-	-	34 10
880	Daniel F. Burlingame,	blacksmith's work on tools, &c.,	-	-	85 16
881	Dexter Gorton & Co.,	lumber, carpehter's work, &c.,	-	-	830 06
882	Builders' Iron Foundry,	special castings,	-	-	1,276 60
883	Charles H. Pierce,	paid by him for labor,	-	-	312 93
884	Warren Foundry and Machine Co.,	cast iron water pipes,	-	-	4,093 58
885	Thomas Phillips & Co.,	labor and materials,	-	-	318 29
886	Sam'l M. Gray,	on account for payments for labor at Pettaconset,	-	-	1,000 00
887	Steamer Middlesex,	freight of water pipes (charged to Warren	-	-	-
	Foundry and Machine Co.)	-	-	-	408 93
888	Samuel M. Gray,	on account for payments for labor at Petta-	-	-	-
	conset,	-	-	-	500 00
889	Charles H. Pierce,	salary as assistant engineer,	-	-	250 00
890	Samuel M. Gray,	" " " " " " " "	-	-	335 00
891	Otis F. Clapp,	" " " " " " " "	-	-	208 33
	Amount carried forward,	-	-	-	\$161,262 16

	Amount brought forward,	-	\$161,262 16
892	Howard A. Carson,	salary as assistant engineer,	208 33
893	William T. Schneider,	" " " "	100 00
894	C. Frank Allen,	" " " "	100 00
895	John E. Bowen,	" " " "	100 00
896	Lucius J. Sampson,	" " " "	100 00
897	Daniel D. Waterman,	" " " "	83 33
898	Leprilete Sweet, 2d,	" " " "	83 33
899	Edmund B. Weston,	" " " "	83 33
900	Henry N. Francis,	" " " "	83 33
901	William F. Janes,	" " service pipe engineer, -	83 33
902	Augustus F. Nagle,	" " mechanical engineer, -	200 00
903	Edwin P. Dawley,	" " student, engineering department,	41 67
904	Charles M. Hunt,	" " " "	33 33
905	Frank B. Ferris,	" " " "	33 33
906	Thomas L. Botts,	" " " "	33 33
907	William H. Olmstead,	" " " "	33 33
908	William M. Brown, Jr.,	" " " "	41 67
909	Daniel C. Stone,	" " " "	41 67
910	George B. Francis,	" " " "	25 00
911	Charles A. Harper,	" " " "	25 00
912	Walter F. Slade,	" " service pipe clerk, engin'g dep't,	83 33
913	William Aplin,	" " clerk, engineering department,	83 33
914	William H. Turner,	" " " "	100 00
915	Irving H. Potter,	" " " "	58 50
916	Andrew B. Purdy,	" " superintendent of pipe work,	166 67
917	George Bowers,	" " inspector on pipe line,	112 00
918	Foster S. Dennis, Jr.,	" " " "	108 00
919	S. Horace Wheeler,	" " of service pipes,	125 00
920	Henry M. Wilcox,	" " ass't inspector of service pipes,	100 00
921	Simeon Noell,	" " inspector of engine work,	358 33
922	Burrows Chace,	" " inspector at Hope Reservoir,	130 00
923	Richard K. Randolph,	" " " "	130 00
924	Alexis C. Miller,	" " " "	105 00
925	George W. Mitchell,	" " " "	115 00
926	Rencellaer B. S. Hart,	" " " "	115 00
927	Frederic A. Arnold,	" " " water fixtures,	100 00
928	Albert O. Winsor,	" " temporary assistant inspector of water fixtures,	81 00
929	Edward A. Moran,	" " as inspector of meters.	79 30
930	George H. Slade,	salary as temporary assistant engineering dep't,	38 00
931	J. H. C. Smith,	" " " "	52 00
932	Albert E. Angell,	" " " "	32 50
933	Edward C. Reynolds,	" " " "	34 50
934	George W. Winsor, Jr.,	" " " "	37 50
935	William H. Kelly,	" " " "	46 00
936	Charles H. Wheeler,	" " " "	3 00
937	Henry G. Dennis,	" " superintendent of pipe yard,	125 00
938	Richard M. Wood,	" " clerk at pipe yard,	66 67
939	Jephtha Baker,	" " keeper of Sockanosset Reservoir,	77 50
	Amount carried forward,	-	\$165,458 60

Amount brought forward,		\$165,458 60.
940	George F. Battey, salary as pumping engineer, Pettaconset,	100 00
941	John Hamilton, " " fireman, " "	80 00
942	George F. Barney, " " " " " "	60 00
943	John Quinn, " " pumping engineer, Hope Station,	125 00
944	Joseph F. Plant, " " " " " "	90 00
945	Thomas Miller, " " fireman, " "	65 00
946	Michael Hamill, " " " " " "	65 00
947	George H. DeForest, " " time keeper, Hope Reservoir,	72 90
948	William F. Tanner, " " axeman, " "	35 20
949	Frank U. Carter, testing cement, -	60 75
950	Leonard N. Austin, Jr., salary as commissioners' clerk,	66 67
951	Thomas C. Guashee, " " " " " "	100 00
952	Philip S. Chase, " " " " " "	150 00
953	Clinton D. Sellow, " " secretary of water commissioners,	200 00
954	John Purnell, care of rooms, -	56 25
955	Charles H. Pierce, paid by him for labor, -	979 00
956	Charles H. Pierce, " " " " sundries, -	58 23
957	Samuel M. Gray, horse hire and paid by him for sundries,	87 75
958	C. E. Jenks, carpenters' work, lumber, &c., -	32 36
959	Providence & Newport Lead Works, lead pipe, -	40 46
960	W. Coleman & Sons, blocks, &c., -	15 37
961	Buff & Berger, engineers instruments and repairing transit,	215 00
962	S. W. Baker, horse blanket, -	10 50
963	Henry Holden, horse shoeing, engineering department, -	8 00
964	Belcher Brothers, tools, &c., -	9 88
965	Bugbee & Hall, tracing cloth, drawing paper, &c., -	28 83
966	Charles F. Pope, powder, fuse, &c., -	36 61
967	Wood & Winsor, labor, pipe and fittings, -	92 62
968	Union Water Meter Co., water meters, -	1,850 75
969	A. O. Eddy & Studleys, hose, pure packing, &c., -	109 66
970	M. D. Copeland, teaming, -	27 50
971	Providence & New York Steamship Co., freight of cylinder,	21 76
972	Moulton & Ingraham, stakes, -	8 49
973	Samuel R. Eccleston, salary as inspector of pipes, -	25 00
974	Stone & Carpenter, architectural services, -	500 00
975	Paulding, Kemble & Co., on account of transportation of parts of Cornish Engine, -	1,000 00
976	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	5,816 69
977	Thomas J. Hill, rent of wharf, -	625 00
978	Edward L. Tracey, use of tools, -	13 50
979	Paulding, Kemble & Co., on account for constructing pumping engine, -	10,572 00
980	Samuel M. Gray, paid by him for labor at Hope Reservoir, &c.,	164 40
981	W. A. Burdick, Agent, granite, &c., -	287 06
982	W. A. Burdick, Agent, granite, -	797 00
983	W. A. Burdick, Agent, granite, -	7,074 00
984	Lobdell & Newmans, on account for construction of Hope Reservoir, -	12,100 00
Amount carried forward,		\$209,392 78

	Amount brought forward,	-	-	\$209,392 78
985	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	-	11,900 00
986	" " carting pipes,	-	-	1,297 28
987	" " laying water pipes, &c.,	-	-	663 39
988	" " repairing streets, &c.,	-	-	75 00
989	Miller Iron Works, valve boxes,	-	-	435 89
990	Daniel F. Burlingame, blacksmith's work,	-	-	21 70
991	Alva Carpenter, valve box covers,	-	-	150 31
992	Jesse B. Sweet, labor,	-	-	27 00
993	R. S. Burrough & Co., oil,	-	-	100 63
994	W. P. Knickerbocker & Co., rope, &c.,	-	-	7 37
995	S. W. Watson, teaming,	-	-	35 89
996	John Smurthurst, labor,	-	-	80 00
997	Yetter & Wack, sprinkling street,	-	-	10 00
998	Builders' Iron Foundry, special castings,	-	-	1,246 01
999	Armington & Leonard, use of pile driver, &c.,	-	-	55 00
1000	Thomas Phillips & Co., tin lined lead pipe,	-	-	1,485 02
1001	Fales, Jenks & Sons, water gates, taps and stops, &c.,	-	-	2,007 01
1002	E. M. Hunt, cement,	-	-	104 28
1003	W. A. Burdick, Agent, granite,	-	-	212 00
1004	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	500 00
1005	Freeborn & Crowell, labor, paints, &c.,	-	-	138 43
1006	Hammond, Angell & Co., printing,	-	-	347 10
1007	Hopkins & Pomroy, coal, cement, carting bricks, &c.,	-	-	3,635 20
1008	Schooner Fashion, freight of cast iron water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	56 59
1009	Charles H. Pierce, paid by him for labor,	-	-	326 80
1010	T. & W. Breck, rent of offices,	-	-	877 50
1011	Warren Foundry and Machine Co., cast iron water pipes,	-	-	9,979 08
1012	Charles H. West, wagon, harness, &c.,	-	-	202 25
1013	Providence Concrete Company, on account for concreting around service boxes,	-	-	200 00
1014	Wm. H. Miller & Co., blacksmith's work on tools,	-	-	80 04
1015	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	-	1,001 39
1016	Phenix Iron Company, iron beams, &c.,	-	-	4,044 54
1017	Gladding Bros. & Tibbitts, stationery,	-	-	57 30
1018	Lobdell & Newmans, extra labor and materials at Hope Reservoir,	-	-	263 18
1019	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	1,000 00
1020	City of Providence, Sewer Department, bricks,	-	-	26 25
1021	Paulding, Kemble & Co., on account for constructing, &c., pumping engine,	-	-	1,200 00
1022	Providence & New York Steamship Co., freight of iron work (charged to Architectural Iron Works,)	-	-	116 43
1023	Schooner Fashion, freight of cast iron water pipes (charged to Warren Foundry and Machine Co.,)	-	-	159 29
1024	J. Herbert Shedd, salary as chief engineer,	-	-	2,000 00
	Amount carried forward,	-	-	\$255,517 93

Amount brought forward:		\$255,517 93
1025	Charles H. Pierce, salary as assistant engineer,	250 00
1026	Samuel M. Gray, " " " &c.,	335 00
1027	Otis F. Clapp, " " " "	208 33
1028	Howard A. Carson, " " " "	208 33
1029	William T. Schneider, " " " "	100 00
1030	C. Frank Allen, " " " "	100 00
1031	John E. Bowen, " " " "	100 00
1032	Lucius J. Sampson, " " " "	100 00
1033	Daniel D. Waterman, " " " "	83 33
1034	Leprilto Sweet, 2nd, " " " "	83 33
1035	Henry N. Francis, " " " "	83 33
1036	William F. Janes, " " service pipe engineer,	83 33
1037	Augustus F. Nagle, " " mechanical " "	200 00
1038	Edwin P. Dawley, " " student, engineering department,	41 67
1039	Charles M. Hunt, " " student, engineering department,	33 33
1040	Frank B. Ferris, " " student, engineering department,	33 33
1041	Thomas L. Botts, " " " "	33 33
1042	William H. Olmstead, " " " "	33 33
1043	William M. Brown Jr., salary as student, engineering department,	41 67
1044	Daniel O. Stone, salary as student, engineering dept.,	41 67
1045	George B. Francis, " " " " "	25 00
1046	Charles A. Harper, " " " " "	25 00
1047	Walter F. Slade, " " service pipe clerk, engineering department,	83 33
1048	William Aplin, salary as clerk, engineering dept.,	83 33
1049	William H. Turner, " " " " "	100 00
1050	Irving H. Potter, " " " " "	60 75
1051	Andrew B. Purdy, " " superintendent of pipe work,	166 67
1052	George Bowers, " " inspector on pipe line,	100 00
1053	Foster S. Dennis Jr., " " " " "	100 00
1054	S. Horace Wheeler, " " " of service pipes,	125 00
1055	Henry M. Wilcox, " " assistant inspector of service pipes,	100 00
1056	Samuel R. Eccleston, salary as inspector of pipes,	125 00
1057	Burrows Chace, " " " at Hope Reservoir,	130 00
1058	Richard K. Randolph, " " " " "	130 00
1059	Alexis C. Miller, " " " " "	105 00
1060	George W. Mitchell, " " " " "	115 00
1061	Rencellaer B. S. Hart, " " " " "	115 00
1062	Frederic A. Arnold, " " " of water fixtures,	100 00
1063	Albert C. Winsor, " " temporary assistant inspector of water fixtures,	69 00
1064	Edward A. Moran, salary as inspector of meters,	83 33
1065	Simeon Noel, " " " " engine work,	250 00
1066	J. H. C. Smith, " " temporary assistant, engineering department,	50 00
Amount carried forward,		\$259,052 65

	Amount brought forward,		\$289,953 65
1067	George W. Winsor Jr., salary as temporary assistant, engineering department,		39 00
1068	William H. Kelly, salary as temporary assistant, engineering department,		54 00
1069	Edward C. Reynolds, salary as temporary assistant, engineering department,		39 00
1070	Albert E. Angell, salary as temporary assistant, engineering department,		32 50
1071	George H. Slade, salary as temporary assistant, engineering department,		46 40
1072	Henry G. Dennis, salary as superintendent of pipe yard,	125 00	
1073	Richard M. Wood, " " clerk at pipe yard,	66 67	
1074	Jeptha Baker, " " keeper of Sockanosset Reservoir,	77 50	
1075	George F. Battey, salary as pumping engineer, Pettacoonset,	100 00	
1076	John Hamilton, " " fireman,	80 00	
1077	George F. Barney, " " " "	60 00	
1078	John Quinn, " " pumping engineer, Hope Station,	125 00	
1079	Joseph F. Plant, salary as pumping engineer, Hope Station,	90 00	
1080	Thomas Miller, " " fireman,	65 00	
1081	Michael Hamill, " " " "	65 00	
1082	George H. DeForest, salary as time keeper at Hope Reservoir,	79 05	
1083	Wm. F. Tanner, " " axeman,	51 00	
1084	Henry Wright, testing cement,	28 00	
1085	Henry C. Kelly, " " " "	27 00	
1086	Leonard N. Austin Jr., salary as commissioners' clerk,	66 67	
1087	Thomas C. Gushee, " " " "	100 00	
1088	Philip S. Chase, " " " "	150 00	
1089	Clinton D. Sellow, " " secretary of water commissioners,	200 00	
1090	Joseph J. Cooke, " " water commissioner,	500 00	
1091	Charles E. Carpenter, " " " "	500 00	
1092	William Corliss, " " " "	500 00	
1093	John Purnell, care of rooms,	58 27	
1094	Charles H. Pierce, paid by him for sundries,	53 21	
1095	" " " " labor,	888 89	
1096	Samuel M. Gray, " " " " horse hire and sundries,	105 81	
1097	Clinton D. Sellow, " " " " sundries,	39 19	
1098	Wm. S. Briggs, horse hire by engineers,	13 50	
1099	Union Water Meter Co., water meters,	1,673 20	
1100	Providence Builders' Association, drain pipe,	11 69	
1101	Dexter Gorton & Co., building keeper's house at Sockanosset Reservoir, &c.,	2,415 25	
1102	George R. Whipple, lap robe,	12 00	
1103	W. E. Barrett & Co., grass seed,	20 00	
1104	Waldron, Wightman & Co., soap,	14 37	
1105	E. M. Hunt, cement,	50 56	
1106	Akerman & Co., blank books, &c.,	51 95	
1107	William H. Knight, charcoal,	34 20	
1108	Lobdell & Newmans, labor,	317 53	
1109	Mason, Chapin & Co., lamp black, &c.,	42 86	
1110	Providence Steam Engine Co., machinists' labor, &c.,	124 04	
1111	Louis W. Clarke, labor on telegraph line,	20 15	
1112	Taunton Brick Co., bricks,	3,125 78	

 \$372,388 89

RECEIVED FROM SEPTEMBER 1, 1874, TO NOVEMBER 30, 1874, INCLUSIVE, AND PAID TO THE CITY TREASURER.

1874.

Sept.	3.	Of Henry G. Dennis, for carting rejected pipes,	\$5 00
	4.	Of Phineas A. Conley, for grass and pasturage on farm purchased of S. B. Gardiner,	50 00
	7.	Of John Smurthurst, for three months rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to December 1, 1874,	56 25
	11.	Of Lewis Reed, for bricks,	10 00
	12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chase, to September, 12, 1874,	14 58
	14.	Of Alva Carpenter, for old iron,	288 50
	26.	Of Samuel M. Gray, for sundries,	1 00
	30.	Of Boston and Providence Railroad Co., for labor and materials,	4 25
Oct.	2.	Of Valley Worsted Mill, for labor and materials,	425 84
	8.	Of Peleg P. Cranston, for three month's rent of Randall estate, so called, in Pawtuxet, to October 1, 1874,	50 00
	10.	Of City of Providence, for sewer expenses, Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chase, to October 12, 1874,	2,412 26
	13.	Of W. A. Burdick, Agent, for labor,	14 58
	15.	Of Samuel M. Gray, for sundries,	3 03
	19.	Of Union Steamboat Co., for labor and materials,	5 80
	19.	Of Union Steamboat Co., for labor and materials,	78
Nov.	5.	Of Frank E. Richmond, for labor and materials,	65 79
	9.	Of Samuel M. Gray, for sundries,	17 25
	12.	Of Thomas Phillips & Co., for labor, Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chase, to November 12, 1874,	3 00
	24.	Of City Machine Co., for labor and materials,	14 58
	27.	Of Heirs of Joseph Harris, for labor and materials,	407 83
	27.	Of City of Providence, for labor and materials on drinking fountain, corner of Greenwich and Public streets, Of City of Providence, for labor and materials on fountain on Abbott Park,	538 90
		Of City of Providence, for labor, etc., bridge and public market,	168 77
		Of City of Providence, for sewer expenses,	906 15
	30.	Of Providence Tool Company, for labor and materials, Of Chicopee Manufacturing Co., for labor and materials,	366 81
		For repairing meters during the present quarter,	10,191 01
		For laying service pipes during the present quarter,	517 74
		For service pipe during the present quarter,	197 34
		For water during the present quarter,	63 10
		For meters during the present quarter,	448 56
		For penalties during the present quarter,	245 30
			16,150 32
			5,165 27
			18 00

TRIAL BALANCE OF LEDGER, NOVEMBER 30, 1874.

Dr.

Hope Reservoir, for land,	\$118,229 65
“ “ “ sundries,	1,425 48
“ “ “ labor,	6,199 88
“ “ “ gate chambers,	9,179 68
“ “ “ drain,	404 03
“ “ “ inspection,	6,799 09
“ “ “ conduit,	3,661 32
“ “ “ slope wall,	42,686 43
Hope engine house,	103,858 90
Sockanosset Reservoir for construction,	177,870 72
“ “ “ sundries,	200 29
“ “ “ land,	14,489 86
“ “ “ gate houses,	18,605 32
“ “ “ drain,	2,421 13
“ “ “ inspection,	6,619 18
“ “ “ extra work and materials,	189 70
“ “ “ gate chambers,	19,299 27
“ “ “ improvement of grounds,	3,274 97
Line of leading mains, for labor and materials,	19,810 10
“ “ “ extra trenching, etc.,	472 45
“ “ “ lands and damages,	1,665 00
Force main line, for land and damages,	3,006 35
“ “ “ labor and materials,	5,099 28
“ “ “ extra trenching, etc.,	332 56
Office fixtures, stoves, gas fixtures, etc.,	1,247 39
Rent of offices,	2,388 90
Books, stationery, etc.,	529 62
Fuel and lights,	194 29
Horse hire by commissioners,	19 00
Traveling expenses of commissioners,	146 87
Janitor of rooms,	388 48
Commissioners' salaries,	19,542 13
Secretary's salary,	1,855 58
Clerks' salary,	3,886 53
Sundries,	334 96
Printing,	1,895 03
Advertising,	1,848 86
Fences,	2,050 38
Rent of wharves and pipe yards,	5,561 66
Stop valves,	62,844 14
Linking curved pipes,	232 75
Store house and work shop,	1,207 38
Tools,	9,464 29
Amount carried forward,	\$681,148 83

REPORT OF THE WATER COMMISSIONERS.

27

Amount brought forward,	\$681,148 83
Labor on pipes,	16,987 95
Cast iron water pipes,	1,263,812 72
Special castings,	94,661 30
Lumber,	1,576 30
Fire hydrants,	93,414 09
Sockanosset hill cross road,	3,855 38
Pettaconset and Sockanosset telegraph line,	1,908 14
Dwelling houses at Pettaconset,	9,634 45
Culverts and bridge on line of force main,	6,775 33
Culverts at Pettaconset,	3,557 92
Real estate in Warwick,	11,886 81
Water privileges, mill, and other real estate in Pawtuxet,	46,342 43
Pochasset bridge,	5,559 82
Wharf salaries,	8,332 81
Temporary engine house at Pettaconset,	9,725 58
Roads, slopes, etc., at Pettaconset,	11,936 55
Engine house at Pettaconset,	272,558 70
Natural filter basin,	41,493 35
Removing loam,	462 95
Iron screw piles,	3,766 46
Hydrant bolts,	1,698 92
Pipe bolts,	1,687 37
Photographs,	284 25
Hydrant heads,	7,443 00
Taps and stops,	16,020 13
Valve covers,	7,934 24
Service pipe,	41,179 22
Hydrant boxes,	26,197 67
Setting fire hydrants,	10,164 34
Check valves,	1,412 48
Valve boxes,	28,768 46
Air cocks, boxes, covers and setting,	524 55
Setting blow-offs,	331 49
Pettaconset pumping station, for lands,	25,897 73
G. B. & W. F. Inman,	35,425 00
Lobdell & Newmans,	123,400 00
A. & W. Sprague Manufacturing Company,	2,500 00
Providence Steam and Gas Pipe Company,	570 42
Henry B. Worthington,	17 09
Architectural Iron Works,	116 43
Samuel M. Gray,	1,500 00
Heirs of George A. Howard,	83 43
Nicholson File Co.,	175 66
Providence Concrete Company,	200 00
Amos O. Barstow,	157 64
Ellery Millard,	2 13
Paulding, Kemble & Co.,	67,737 00
Sewer department salaries and office expenses,	702 73

Amount carried forward,

\$2,981,532 25

Amount brought forward,	\$2,981,532 25
City Treasurer,	160,866 79
City Treasurer, for water payments,	262,365 57
Testing pipe iron,	443 50
Iron drain pipes and gate,	224 21
Carting pipes,	37,063 07
Counsel fees,	5,500 00
Inspection of pipes,	9,889 14
Testing bolts and composition castings,	34 25
Laying water pipes,	331,579 26
Laying service pipes,	27,430 87
Laying suction pipe, etc.,	85 00
Draining pump and engine,	5,056 25
Hydrants for street sprinklers,	2,538 68
Inspection of pipe laying,	26,903 59
Temporary boarding house at Pettaconset,	1,352 25
Public drinking fountains and troughs,	2,233 37
Warwick test pits,	1,304 43
Water meters set belonging to the city,	1,258 72
Worthington pumping engine,	35,522 33
Hope pumping engine,	63,104 67
Cornish pumping engine,	7,822 48
Keeper's house at Sockanosset Reservoir,	6,581 15
Post hydrant, Brook street district,	93 74
Pipe in river embankment at Pettaconset,	3,659 29
Inspection of engine work,	608 33
	<hr/>
	\$3,975,053 19.

ENGINEERING DEPARTMENT:—

For instruments,	3,076 90
Tools,	697 99
Furniture, stoves, gas fixtures, etc.,	2,764 27
Draughting,	3,523 52
Labor,	7,463 11
Horse and wagon account,	1,970 18
Horse keeping, shoeing, etc.,	1,756 25
Horse hire,	4,245 90
Rent of offices,	5,915 18
Fuel and lights,	606 87
Janitor of rooms,	1,116 63
Experimental filter,	91 08
Books, stationery, etc.,	3,065 81
Sundries,	3,001 95
Test wells,	1,579 40
Consultations,	827 08
Office building at Pettaconset,	567 60
“ “ “ Sockanosset Reservoir	563 22
Stakes and strips,	1,256 86
Printing,	501 17
Maps,	86 67
Service pipe experiments,	296 04
Temporary assistance,	8,382 46
Salaries,	123,068 22
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	\$176,424 36

Amount carried forward. \$4,151,477 55

REPORT OF THE WATER COMMISSIONERS.

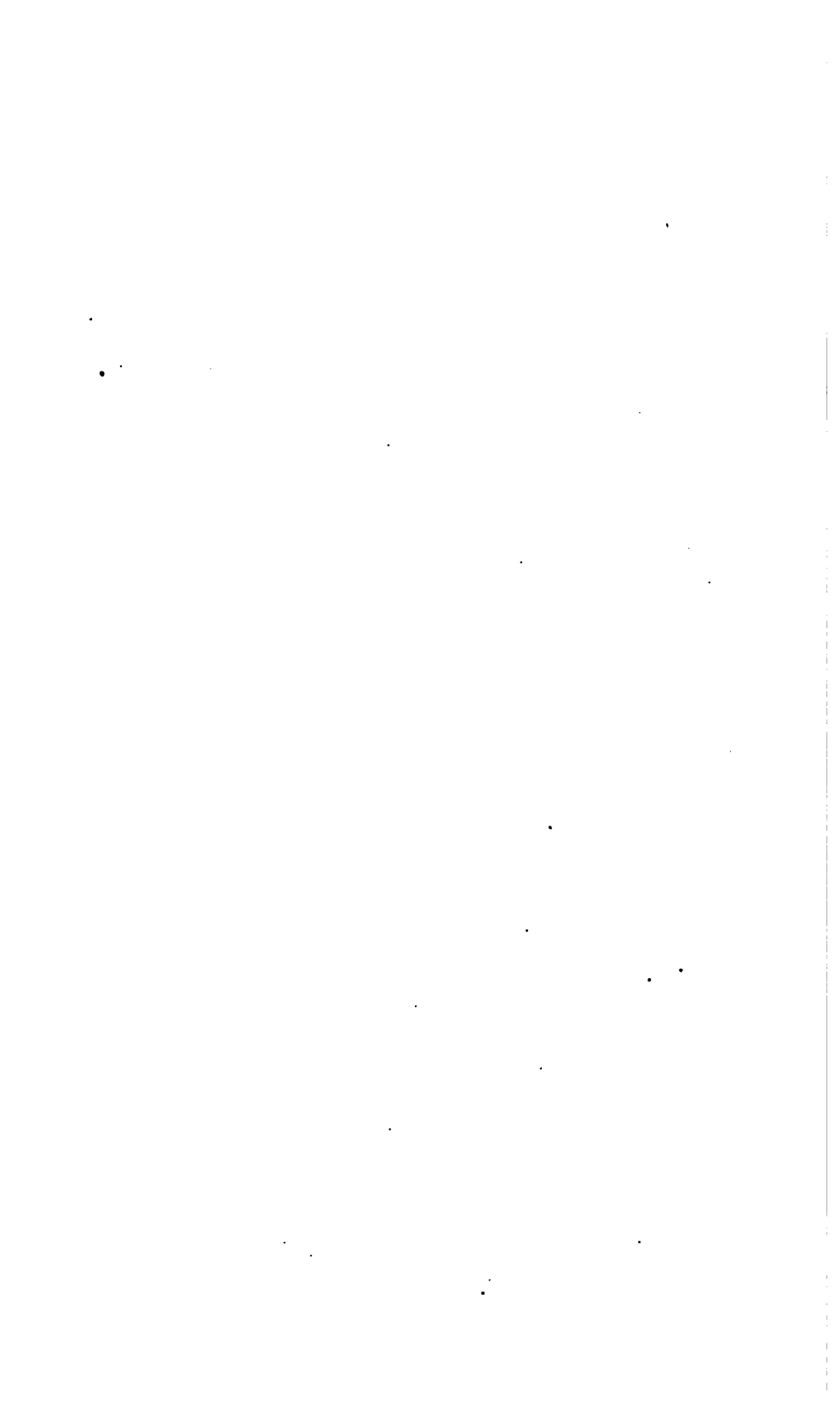
29

Amount brought forward,		\$4,151,477 55
MAINTENANCE :		
Hope pumping station, for coal and wood,	3,615 80	
" " " " engineer,	1,147 56	
" " " " firemen,	694 65	
" " " " lights,	823 70	
" " " " sundries,	235 44	
" " " " night and sunday watch,	41 23	
Pettaconset pumping station, for coal and wood,	18,964 50	
" " " " engineer,	4,651 69	
" " " " firemen,	4,657 03	
" " " " labor on fuel,	1,379 03	
" " " " sundries,	3,633 21	
" " " " night and Sunday watch,	1,919 13	
Sockanosset Reservoir, for watch,	2,648 75	
" " " " sundries,	4,601 60	
Ascertaining and removing nuisances on Pawtuxet river,	479 46	
Worthington pumping engine,	6,084 08	
Miller boilers at Pettaconset,	120 61	
Change of grades,	1,586 76	
Inspection of water fixtures,	3,025 28	
Repairs on pipe line,	11 30	
Meter testing room,	237 75	
Setting, inspection and repair of meters,	590 19	
Commissioners' salaries,	5,833 34	
Secretary's salary,	1,855 57	
Clerks' salaries,	3,658 99	
Rent of offices,	926 38	
Fuel and lights,	41 05	
Janitor of rooms,	191 95	
Books, stationery, etc.,	521 87	
Printing,	612 84	
Advertising,	80 16	
Sundries,	225 00	
Counsel fees,	1,000 00	
Engineering department, for rent of offices,	1,958 76	
" " " " fuel and lights,	105 98	
" " " " janitor of rooms,	375 89	
" " " " books, stationery, etc.,	50 00	
" " " " printing,	130 97	
" " " " salaries,	11,970 97	\$90,686 52
		<hr/>
		\$4,242,164 07
On.		
Warren Foundry and Machine Co.,	\$6,819 12	
Fales, Jenks & Sons,	900 00	
Interest,	54 66	
Boston hydrants,	28 67	
W. A. Burdick, Agent,	2,691 00	
Water meters,	685 69	
Penalties,	204 00	
Water,	262,365 57	
Approved bills,	3,968,415 36	
		<hr/>
		\$4,242,164 07

**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO DECEMBER 1st., 1874.**

MONTH.	1872.	1873.	1874.
January.....	.....	\$40,699 09	\$39,356 70
February.....	796 06	4,314 80	3,678 96
March.....	6,671 82	6,669 73	9,221 19
April.....	1,668 59	2,810 07	4,936 98
May.....	2,063 41	1,766 28	2,338 59
June.....	2,634 89	2,228 92	2,583 35
July.....	3,488 27	6,214 24	13,756 51
August.....	1,818 14	1,441 09	1,953 37
September.....	4,933 44	7,550 64	5,541 34
October.....	5,079 08	8,745 53	9,097 95
November,	477 04	872 83	1,511 03
December.....	5,372 77	8,072 87	.....
	\$41,003 51	\$97,396 09	\$123,975 97





1875.]

CITY DOCUMENT.

[No. 12.]

FOURTH QUARTERLY REPORT

OF THE BOARD OF

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

[Elected February 27, 1874.]

MARCH 1, 1875.



PROVIDENCE:

HAMMOND, ANGELL & CO., PRINTERS TO THE CITY.

1875.

ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.
CHARLES E. CARPENTER,
WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

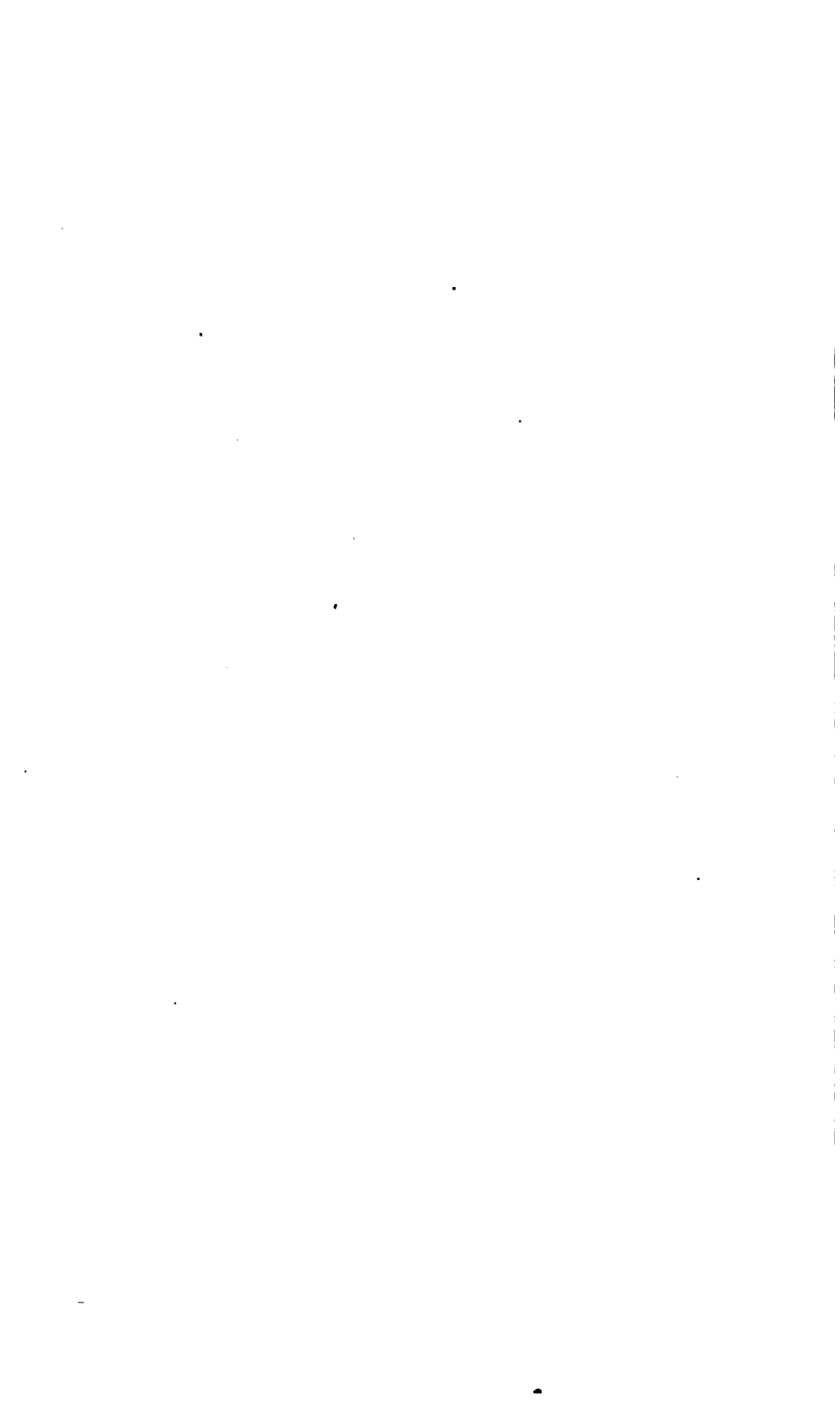
CLINTON D. SELLEW.

Office No. 35 North Main Street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main Street.



REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
Providence, R. I., March 1st, 1875. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned Water Commissioners, elected February 27th, 1874, under "An Ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their Fourth Quarterly Report:

J. Wheaton Allen has entered upon the duties of commissioners' clerk, on trial, with a salary of eight hundred dollars per annum.

The salary of Leonard N. Austin, Jr., commissioners' clerk, has been increased to nine hundred dollars per annum, dating from January 1, 1875.

An offer of Hopkins & Pomroy to furnish say one hundred and twenty-five barrels best Rosendale cement, delivered at Pettaconset Pumping Station, for the sum of one dollar and fifty-five cents per barrel, has been accepted.

An offer of the Builders' Iron Foundry to furnish boiler fronts for boilers at Engine House at Pettaconset, delivered at their works, for the sum of three hundred and forty (\$40) dollars, has been accepted.

An offer of the Fuller Iron Works to furnish twelve hundred (1200) service boxes and covers, delivered on Hill's wharf, for the sum of three cents per pound, has been accepted.

An offer of Phelps, Dodge & Co., to furnish 1000 pounds Straits tin, for the sum of twenty-five and one-quarter (25 1-4) cents per pound, and 2000 pounds lead at seven (7) cents per pound, has been accepted.

An offer of Fales, Jenks & Sons to furnish one thousand (1000) one-half (1-2) inch taps, for the sum of one 15-100 (1.15) dollars each ;

One thousand (1000) one-half (1-2) inch stops, for the sum of eighty-three (83) cents each ;

Two hundred and fifty (250) five-eighths (5 8) inch taps, for the sum of one 40-100 (1.40) dollars each, and

Two hundred and fifty (250) five-eighths (5-8) inch stops, for the sum of ninety-five (95) cents each, has been accepted.

The southerly portion of Hill's wharf, on the west side, having a front on the harbor of two hundred and fourteen feet, being the same wharf property occupied by the commissioners for the last four years, has been leased for two years from February 1, 1875, at thirty-five hundred (3,500) dollars per annum. This property was leased by the commissioners for two years from February 1, 1871, at eight hundred (800) dollars per year, and an agreement was made with Mr. Hill before the expiration of the lease, for the continued occupancy of said wharf property, for one year from February 1, 1873, at a rent of two thousand (2,000) dollars per annum, with a conditional privilege of another year at the same rent.

A contract has been executed with French, Mac kenzie & Co., for furnishing the materials and performing the carpenter's work, including painting and glazing, for engine house and

boiler house at Pettaconset, for the sum of forty-one hundred and seventy-two (4,172) dollars.

On the 12th day of January last, proposals for furnishing :

One thousand tons cast iron water pipes, six (6) inches in diameter and one-half (1-2) inch thick, and

Five hundred tons cast iron water pipes, eight (8) inches in diameter and nine-sixteenths (9-16) inch thick, were opened, and the contract awarded to the Warren Foundry and Machine Company, of Phillipsburg, N. J., at forty 75-100 (40.75) dollars per ton of 2,240 pounds for the six (6) inch, and forty 50-100 (40.50) dollars per ton for the eight (8) inch. A contract has since been executed with said company for furnishing these pipes.

On Friday night, January 15th, the mill at Pawtuxet, belonging to the City of Providence, and leased to Stafford & Co., for five years from January 1, 1873, was destroyed by fire. Messrs. Stafford & Co., under date of January 21, 1875, notified the commissioners that they availed themselves of the provisions of the lease in regard to fire, and surrendered the same.

The iron roof of the engine house at Pettaconset is approaching completion.

The erection of the Cornish engine has been retarded by the severity of the weather. It is expected that rapid progress will now be made.

The long continued extreme severity of cold has caused the freezing of the water in a large number of service pipes. Over six hundred cases have been reported at the office. A few six inch mains have also been closed by ice. One eight inch main (in Broadway) at the crossing of a bridge, is also closed. The Chief Engineer of the Fire Department states that about one half of the fire hydrants have been frozen to a greater or less extent; nearly all of which have been thawed out.

A plumber's license has been issued to Michael Greeley.

On the 26th day of February, 1875, the bondsman of William H. Wells withdrew, and his license was suspended until another satisfactory bond should be filed.

The whole number of plumber's licenses issued is fifty-four. Suspended, two. Revoked, one. Remaining in force, fifty-one.

The following statement shows the length of pipes laid during the last quarter; the sizes of the pipes; where laid, and the totals since the commencement of the work:

36 INCH.

On Force Main Line, - - - -	222 feet.
Including 1 cut pipe, 1 curved pipe, and 1 manhole.	
Previously, - - - -	9,774 feet.
Total, - - - -	<u>9,996 feet.</u>

8 INCH.

In Angell street, - - - -	710 feet.
Including 2 cut pipes, 1 curved pipe, 2 branches and 1 gate.	
Previously, - - - -	69,358 feet.
Total, - - - -	<u>70,068 feet.</u>

6 INCH.

In Bond, Bourn, Bucklin, Dora, Hanover, Knowles, Lippitt, Mountain, Newton, Stampers, Williams and Wood streets; in Lincoln avenue, and for Butler Hospital, -	7,666 feet.
Including 34 cut pipes, 23 curved pipes, 22 branches and 15 gates.	
Previously, - - - -	350,616 feet.
Total, - - - -	<u>358,282 feet.</u>

Total of all sizes during the last quarter,	-	8,598 feet.
or 1.6284 miles.		
Previously, including 10, 12, 16, 20, 24, and		
30 inch, of which none have been laid during		
the last quarter,	- - - -	575,831 feet.
Total,	- - - - -	584,429 feet.
or 110.6873 miles		

Eleven fire hydrants have been set during the last quarter ; one in each of the following locations :—

Bourn street, west side, about half way between Atwell's avenue and Aborn street.

Butler avenue, south-east corner of Hawthorn avenue.

“ “ “ “ Laurel street.

“ “ east side, opposite south line of Hart avenue

Chalkstone avenue, northwest corner of Bartlett street.

Constitution street, east side, about 120 feet north of Wilson street.

Hanover “ north side, about 254 feet east of Cranston street.

“ “ “ “ “ 690 feet east of Cranston street.

Lincoln avenue, “ “ “ 174 feet east of Butler avenue.

Lippitt street, “ “ 124 feet west of Dwight street.

Parade “ west side, half way between Cranston and Susan streets.

The total number of fire hydrants is now eight hundred and seventeen.

The height of water in Sockanosset Reservoir at 7 o'clock this morning was 179.46. High water in the reservoir is 180.50 (above high tide in Providence River.)

Twenty Ball & Fitts' water meters made by the Union Water Meter Co., and one hundred and ten water meters made

by Fales, Jenks & Sons, have been put in at the expense of water takers since the date of the last report. Fifteen one inch water meters made by Fales, Jenks & Sons have been replaced by three-quarter inch meters of the same make. One five-eighths inch water meter made by the Union Water Meter Co., previously set at the expense of the city, has been taken out. One one-inch water meter made by the Union Water Meter Co., previously set at the expense of a water taker, has been removed; the stop had been previously closed for non-payment. One five-eighths inch water meter made by the Union Water Meter Co., has been replaced by a one-inch water meter made by Fales, Jenks & Sons.

There are now nineteen hundred and twenty-seven water meters in use, viz:—

KIND.	SIZES.						TOTALS.
	$\frac{3}{4}$ inch.	$\frac{1}{2}$ inch.	1 inch.	$1\frac{1}{2}$ inch.	2 inch.	4 inch.	
Ball & Flitts...	1,261	226	83	46	9	1	1,626
Worthington...	170	....	....	....	....	1	171
Fales, Jenks & Sons. ....	....	123	7	....	....	....	130
	1,431	349	90	46	9	2	1,927

The total number of applications for a supply of water is fifty-eight hundred and seven.

The number of service stops opened during the last quarter is one hundred and sixty-three; two of which are for fire purposes only.

The total number of service stops opened to date is forty-nine hundred and twenty.

Seventy-one stops have been closed during the last quarter for non-payment of bills, twenty-nine of which have been re-opened on payment of bills and a penalty in each case of two dollars, and one, for reason of attendant circumstances, was re-opened without charge. Three stops previously closed for non-payment have been re-opened during the last quarter, and in each case a penalty of two dollars was paid. Sixty-one stops closed for non-payment remain unopened. During the last quarter five service pipes and one six inch supply have been taken up, there being no longer use for them; the use of five others has been discontinued, but remain, in view of possible contingencies.

Water is now supplied for the following uses:—

3 armories; 8 bakeries; 32 banks; 70 bar rooms; 2 bath houses; 1 bath house—Turkish; 103 boarding houses; 7 bottling establishments; 32 building purposes; 1 car house; 3 carriage depositories; 3 chasers; 1 Christian Union; 23 churches; 1 city barn; 1 city bridge, Point street; 1 city building; 5 city drinking fountains; 19 city drinking troughs; 817 city fire hydrants; 8 city fire steamer stations; 2 city hose houses; 6 club rooms; 14 coal yards; 1 colored shelter; 1 conservatory of music; 3 convents; 1 court house; 1 decorator; 1 Dexter Asylum; 2102 dwellings of one family; 1862 dwellings of two families; 170 dwellings of three families; 203 dwellings of four families; 25 dwellings of five families; 37 dwellings of six families; 4 dwellings of seven families; 6 dwellings of eight families; 1 dwelling of nine families; 1 dwelling of twelve families; 2 dye houses; 5 elevators; 1 engine turner; 3 engravers; 1 express carriage house; 53 fire supplies, private; 51 fountains, private; 1 fountain, public; 1 furrier; 2585 garden and street hydrants; 4 gas holders; 6 gold and silver platers; 5 gold and silver refiners; 2 grain elevators; 28 green houses; 12 halls; 1 hall of Latter Day Saints; 1 home for aged women; 2 hospitals; 16 hotels; 1 infirmary; 2 laundries; 1 lithographer; 10 lodging houses; 2 lumber dealers. *Manufacturing Establishments*,—2 belt and

picker ; 3 blank book ; 2 bleacheries ; 1 bologna sausage ; 1 bonnet bleachery ; 1 boot and shoe ; 1 box ; 1 braiding works ; 2 brass foundries ; 1 brewery ; 1 brush ; 2 butt ; 1 butter ; 8 carriage ; 2 cement pipe ; 1 chain ; 6 cigar ; 1 cigar box ; 16 cloak and dress ; 1 coffin ; 6 confectionery ; 1 corset ; 3 colorers of jewelry ; 7 cotton ; 1 crocus ; 1 distillery ; 3 die sinkers ; 2 dye wood ; 1 emery wheel ; 1 enameler of jewelry ; 1 eyelet ; 3 file ; 7 furniture ; 1 gas ; 1 gas burner ; 4 gas fixtures ; 1 gear ; 2 hat ; 4 harness ; 1 horse shoe ; 2 ice cream and soda water ; 1 iron company ; 1 iron fence ; 10 iron foundries ; 1 japan switch ; 1 jewelers' cards ; 81 jewelry ; 4 lapidaries ; 25 machinists ; 1 mowing machine ; 1 nail keg ; 2 oil ; 1 organ ; 1 paper box ; 1 paper collar ; 3 paper cop tube ; 1 pattern ; 3 patent medicines ; 3 picture frame ; 1 print works ; 2 pump ; 2 reed ; 1 rubber tubing ; 4 sash and blind ; 2 screw ; 1 sheet iron ; 2 shirt ; 3 silver ware , 6 soap ; 1 spiral spring ; 1 starch ; 1 steam boiler ; 2 steam engines ; 1 stencil plate ; 1 stove ; 2 tanners ; 1 thread ; 1 tin ware ; 4 tool ; 3 top roll ; 6 woolen goods ; 1 yeast *Markets*,— 41 fish ; 97 meat. *Mills*,— 2 drug and grain ; 3 flour and grain ; 1 paint ; 9 planing ; 5 marble works. 1 music hall ; 1 nickel plater ; 16 not classed ; 3 odd fellows' halls ; 1 Opera house ; 2 orphan asylums ; 5 organs ; 5 oyster houses ; 501 offices ; 10 photographers ; 10 printing establishments ; 6 plaster and stucco workers ; 10 plumbers ; 9 provision curers and packers ; 6 police stations ; 7 railroads ; 1 reading room ; 42 restaurants ; 1 roofer. *Saloons*,— 4 billiard ; 3 bowling ; 6 ice cream ; 17 lager beer ; 9 oyster. *Schools*,— 1 boarding ; 12 private ; 34 public ; 1 reform. *Shops*,— 35 barber ; 7 blacksmith ; 1 carpenter ; 3 cooper ; 1 gunsmith ; 1 junk ; 13 paint ; 5 shoemaker ; 20 tailor ; 4 tinman. *Stables*,— 6 hack ; 41 livery ; 247 private ; 4 sale ; 65 work. 13 steamboats ; 13 steamships ; 5 steam and gas pipe fitters. *Stores*,— 1 agricultural implement ; 40 apothecary ; 1 auction ; 4 book ; 28 boot and shoe ; 2 carpet ; 2 carriage trimmings ; 11 cigar ; 20 clothing ; 9 confectionery ; 3 drug ; 36 dry goods ; 80 fancy goods ; 1 florist ; 11 flour and grain ; 11 fruit ; 12 furniture ; 11 gents' furnishing goods ; 126 grocery, retail ; 15 grocery,

wholesale; 8 hardware; 2 hide and leather; 2 hoop skirt; 10 house furnishing goods; 4 house paper; 3 iron and steel; 11 jewelry; 11 liquor; 1 lime and brick; 2 manufacturers' supplies; 30 millinery; 10 newspaper; 3 oil and paint; 2 paper and paper stock; 1 piano forte; 7 produce, wholesale; 3 sewing machine; 4 stationery; 2 stove; 3 tea; 2 trunk; 1 toy; 1 umbrella; 1 wooden ware; 1 wool; 2 woolen goods; 1 state prison; 1 storehouse; 1 theatre; 5 undertakers. 1 United States custom house building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 3 wood yards.

The amount of expenditures during the last quarter, is - - - \$169,604 68

The total amount of expenditures, is 4,138,020 04

The total amount of appropriations, is 4,300,000 00

The unexpended balance, is - - 161,979 96

The cost of construction to date, (deducting from the whole amount of approved bills the cost of maintenance, the amount received for labor and materials, etc.; meters; from sewer department for office expenses; estimated amount due from sewer department for engineering, etc., and adding amount of reservations due to contractors,) is - - - 3,829,981 91

The cost of maintenance to date, is - - 102,425 36

The amount received during the last quarter, all of which has been paid to the City Treasurer, is

For water supplies, - \$104,852 71

For water meters, - - 3,962 20

For penalties, - - 64 00

For sundries, - - 9,054 04

117,932 95

The amount received for water in 1872, was 41,003 51

The amount received for water in 1873, was 97,386 09

The amount received for water in 1874, was 132,052 39

The amount received for water during the first two months of 1875, was	-	-	96,776 29
The total amount received for water to date, is			367,218 28
The amount of all receipts to date, is	-		541,165 31

A schedule of bills approved during the last quarter, and of receipts during the same time, a trial balance of ledger, February 27, 1875, and a schedule of receipts for water by months, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers will be presented.

The commissioners call attention to the following extract from the ordinance entitled "An Ordinance to establish a Board of Water Commissioners," approved February 27, 1874, being the ordinance under which they were elected :—

"SECTION 1. A board of water commissioners is hereby established to consist of three persons, who shall be elected by the city council, in convention of the two branches, and hold their offices for the term of one year from the first day of March, A. D. 1874, and until their successors are elected and qualified to act,"—

JOSEPH J. COOKE,	}	<i>Board of Water Commissioners.</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		

SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER COMMISSIONERS, FROM DECEMBER 1, 1874, TO FEBRUARY 27, 1875, INCLUSIVE.

1113	Gloucester Iron Works, cast iron water pipes,	-	\$1,204 96
1114	Schooner Henry Remsen, freight of water pipes, (charged to Warren Foundry & Machine Co.),	-	264 07
1115	Architectural Iron Works, on account for roof of engine house, Pettaconset,	-	4,000 00
1116	Edmund B. Weston, salary as assistant engineer,	-	83 33
1117	M. D. Copeland, teaming,	-	24 20
1118	Samuel M. Gray, paid by him for labor at Pettaconset,	-	3,397 12
1119	" " " on account for payments for labor at Pettaconset,	-	1,000 00
1120	" " " paid by him for labor at Hope Reservoir,	-	175 43
1121	Wood & Winsor, pipe, elbows, nipples, labor, etc.,	-	81 45
1122	Thomas Phillips & Co., tin-lined lead pipe,	-	945 99
1123	Builders' Iron Foundry, special castings,	-	693 20
1124	Edward L. Tracey, use of carpenter's tools,	-	12 00
1125	Paulding, Kemble & Co., on account for constructing pumping engine,	-	5,050 00
1126	W. A. Burdick, Agent, granite,	-	796 00
1127	" " " " "	-	5,337 50
1128	" " " " "	-	204 00
1129	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	11,800 00
1130	" " " extra labor and materials at Hope Reservoir,	-	273 29
1131	G. B. & W. F. Inman, trenching and back-filling and laying water pipes,	-	8,875 00
1132	" " " " on account of reservation, laying water pipes in 1874,	-	5,000 00
1133	" " " " hauling pipes,	-	1,219 29
1134	" " " " setting fire hydrants, repairing streets, etc.,	-	63 05
1135	City of Providence, sewer department, labor,	-	8 25
1136	Fuller Iron Works, valve boxes, etc.,	-	411 96
1137	Charles H. Pierce, paid by him for labor,	-	100 00
1138	F. H. Evans, expansion bolts, etc.,	-	93 01
1139	W. P. Knickerbocker & Co., rope, etc.,	-	18 35
1140	Hopkins & Pomroy, coal, cement, carting bricks, etc.,	-	1,701 74
1141	Daniel F. Burlingame, blacksmith's work,	-	45 79
1142	Charles H. Pierce, paid by him for labor,	-	399 64
1143	Warren Foundry & Machine Co., cast iron water pipes,	-	4,679 07
1144	W. A. Burdick, Agent, granite,	-	1,000 00
Amount carried forward,			\$58,987 69

	Amount brought forward,	-	-	\$58,957 69
1145	Merchants' Steam Line, freight of iron work, (charged to Architectural Iron Works),	-	-	185 87
1146	W. A. Burdick, Agent, granite,	-	-	1,277 00
1147	H. B. Bowen, bolts,	-	-	59 17
1148	F. W. Lincoln, Jr., & Co., level rod,	-	-	15 00
1149	B. F. Almy, cop waste,	-	-	13 00
1150	William Earle, coal tar,	-	-	7 50
1151	William H. Miller & Co., repairing tools, etc.,	-	-	58 57
1152	Fales, Jenks & Sons, water gates, fire hydrants, etc.,	-	-	2,330 45
1153	Barker, Whitaker & Co., tools, etc.,	-	-	612 32
1154	Paulding, Kemble & Co., on account for constructing pumping engine.	-	-	466 45
1155	Schooner Fashion, freight of water pipes, (charged to Warren Foundry & Machine Co.),	-	-	155 40
1156	Sloop North America, freight of water pipes, (charged to Warren Foundry & Machine Co.),	-	-	36 79
1157	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
1158	Samuel M. Gray, " " " etc.,	-	-	335 00
1159	Otis F. Clapp, " " " "	-	-	208 33
1160	Howard A. Carson, " " " "	-	-	208 33
1161	William T. Schneider, " " " "	-	-	100 00
1162	C. Frank Allen, " " " "	-	-	100 00
1163	John E. Bowen, " " " "	-	-	100 00
1164	Lucius J. Sampson, " " " "	-	-	100 00
1165	Daniel D. Waterman, " " " "	-	-	83 33
1166	Leprilete Sweet, 2d, " " " "	-	-	83 33
1167	Edmund B. Weston, " " " "	-	-	83 33
1168	Henry N. Francis, " " " "	-	-	83 33
1169	William F. Janes, " service pipe engineer,	-	-	83 33
1170	Augustus F. Nagle, " mechanical " "	-	-	200 00
1171	Edwin P. Dawley, " student, engineering department,	-	-	41 67
1172	Charles M. Hunt, " " " "	-	-	33 33
1173	Frank B. Ferris, " " " "	-	-	33 33
1174	Thomas L. Botts, " " " "	-	-	33 33
1175	William H. Olmstead, " " " "	-	-	15 05
1176	Wm. M. Brown, Jr., " " " "	-	-	41 67
1177	Daniel C. Stone, " " " "	-	-	41 67
1178	George B. Francis, " " " "	-	-	25 00
1179	Charles A. Harper, " " " "	-	-	25 00
1180	Alfred E. Martin, " " " "	-	-	25 00
1181	Walter F. Slade, " service pipe clerk, engineering department,	-	-	83 33
1182	William Aplin, " clerk engineering department,	-	-	83 33
1183	William H. Turner, " " " "	-	-	100 00
1184	Irving H. Potter, " " " "	-	-	56 25
1185	Andrew B. Purdy, " superintendent of pipe work,	-	-	166 67
1186	George Bowers, " inspector on pipe line,	-	-	68 00
1187	Foster S. Dennis, Jr. " " " "	-	-	84 00
1188	Samuel R. Eccleston, " " of pipes,	-	-	135 00
	Amount carried forward,	-	-	\$67,283 15

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	-	\$67,285 15
1189	S. Horace Wheeler, salary as inspector of service pipes,	-	-	125 00
1190	Henry M. Wilcox, " assistant inspector of service pipes,	-	-	100 00
1191	Simeon Noell, " inspector of engine work,	-	-	250 00
1192	Burrows Chase, " at Hope Reservoir,	-	-	130 00
1193	Frederic A. Arnold, " of water fixtures,	-	-	100 00
1194	Albert C. Winsor, " temporary assistant inspector of water fixtures,	-	-	81 00
1195	Edward A. Moran, " inspector of meters,	-	-	83 33
1196	John Lyons, " plumber, meter department,	-	-	28 75
1197	George H. Slade, " temporary assistant, engineering department,	-	-	43 20
1198	Albert E. Angell, " temporary assistant, engineering department,	-	-	30 00
1199	Edward C. Reynolds, " temporary assistant, engineering department,	-	-	37 50
1200	Geo W. Winsor, Jr., " temporary assistant, engineering department,	-	-	34 50
1201	William H. Kelly, " temporary assistant, engineering department,	-	-	5 00
1202	Henry G. Dennis, " superintendent of pipe yard,	-	-	125 00
1203	Richard M. Wood, " clerk at pipe yard,	-	-	66 67
1204	Jephtha Baker, " keeper of Sockanosset Reservoir,	-	-	72 50
1205	George F. Battey, " pumping engineer, Pettaconset,	-	-	100 00
1206	John Hamilton, " fireman, Pettaconset,	-	-	80 00
1207	George F. Barney, " " " "	-	-	60 00
1208	John Quinn, " pumping engineer, Hope station,	-	-	125 00
1209	Joseph F. Plant, " " " " "	-	-	90 00
1210	Thomas Miller, " fireman, " " "	-	-	65 00
1211	Michael Hamill, " " " "	-	-	65 00
1212	George H. DeForest, " time-keeper at Hope Reservoir,	-	-	75 00
1213	William F. Tanner, " axeman,	-	-	48 00
1214	Henry C. Kelly, testing cement,	-	-	29 25
1215	Henry Wright, " " " "	-	-	28 00
1216	J. Wheaton Allen, salary as commissioners' clerk,	-	-	38 71
1217	Leonard N. Austin, Jr., " " " "	-	-	66 67
1218	Thomas C. Gushee, " " " "	-	-	100 00
1219	Phillip S. Chase, " " " "	-	-	150 00
1220	Clinton D. Sellow, salary as secretary of water commiss'rs,	-	-	200 00
1221	John Purnell, care of rooms,	-	-	58 17
1222	Charles H. Pierce, paid by him for sundries,	-	-	109 04
1223	" " " " labor,	-	-	725 54
1224	Samuel M. Gray, " sundries,	-	-	114 48
1225	Wm. S. Briggs, horse hire,	-	-	6 00
1226	W. Congdon & Sons, steel tape,	-	-	10 00
1227	Newport & Providence Lead Works, lead,	-	-	8 37
1228	Boston Machine Co., post hydrants,	-	-	470 25
	Amount carried forward,	-	-	\$71,420 08

	Amount brought forward,	-	-	\$71,420 08
1229	Alva Carpenter, valve box frames and covers, and patterns,	-	-	103 10
1230	W. A. Burdick, Agent, labor on gate chambers, Hope Reservoir,	-	-	9 75
1231	Ira Mathewson, lightning rods on gate houses and keeper's cottage at Sockanosset,	-	-	95 75
1232	W. P. Knickerbocker & Co., rope, (charged to Architectural Iron Works),	-	-	8 29
1233	Edward L. Tracey, use of tools,	-	-	8 50
1234	Phelps, Dodge & Co., tin, lead, etc.,	-	-	408 15
1235	Congdon, Carpenter & Co., hoops, lead, etc.,	-	-	254 70
1236	L. H. Tillinghast & Co., solder, etc.,	-	-	9 50
1237	John Mason, trueing straight edges, (charged to Paulding, Kemble & Co.),	-	-	9 73
1238	Hopkins & Pomroy, coal, cement, etc.,	-	-	1,696 64
1239	Daniel F. Burlingame, blacksmith's work on tools, etc.,	-	-	13 85
1240	Mason, Chapin & Co., acid, potash, etc.,	-	-	7 34
1241	Providence Steam Engine Co., machinists' labor,	-	-	202 50
1242	Wm. H. Fenner & Co., pig tin, plumbers' tools, oil can, etc.,	-	-	129 06
1243	C. E. Jencks, carpenter's work, lumber, etc.,	-	-	15 53
1244	Lobdell & Newmans, extra labor and materials at Hope Reservoir,	-	-	46 61
1245	Union Water Meter Co., water meters, etc.,	-	-	132 75
1246	John F. Ward, services as consulting engineer on Cornish engine,	-	-	1,000 00
1247	Fales, Jenks & Sons, water meters, water gates, fire hydrants, etc.,	-	-	4,274 60
1248	Dexter Gorton & Co., carpenters' work, lumber, etc.,	-	-	964 79
1249	George F. Johnson, care of rooms,	-	-	23 08
1250	M. D. Copeland, teaming,	-	-	40 70
1251	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	500 00
1252	Providence Gas Company, gas,	-	-	437 06
1253	Samuel M. Gray, paid by him for labor at Pettaconset,	-	-	3,259 80
1254	Fuller Iron Works, service boxes, valve boxes, etc.,	-	-	639 73
1255	Lobdell & Newmans, on account for construction of Hope Reservoir,	-	-	1,200 00
1256	G. B. & W. F. Inman, trenching, and back-filling and laying water pipes,	-	-	3,568 66
1257	" " " " hauling pipes,	-	-	256 52
1258	" " " " repair'g streets, laying water pipes, etc.,	-	-	171 00
1259	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	1,000 00
1260	W. A. Burdick, Agent, granite,	-	-	1,728 00
1261	William H. Miller & Co., blacksmith's work on tools,	-	-	59 87
1262	Schooner David S Siner, freight of iron beams, etc., (charged to Phenix Iron Co.),	-	-	154 00
1263	Charles H. Pierce, on account for payments for labor,	-	-	100 00
1264	G. B. & W. F. Inman, on account of reservation in bill for laying water pipes in 1874,	-	-	3,874 30
	Amount carried forward,	-	-	\$96,823 96

	Amount brought forward,	-	-	\$36,823 96
1265	Paulding, Kemble & Co., on account for constructing pump- ing engine,	-	-	5,738 46
1266	Alva Carpenter, floor plates, valve boxes, etc.,	-	-	540 94
1267	Builders' Iron Foundry, special castings, etc.,	-	-	694 28
1268	W. A. Burdick, Agent, granite,	-	-	1,085 12
1269	Thomas Phillips & Co., on account for gutters and conduc- tors for engine house at Pettaconset,	-	-	1,000 00
1270	Charles H. Pierce, paid by him for labor,	-	-	28 88
1271	Alfred Stone, architectural services, etc.,	-	-	1,243 54
1272	Wood & Winsor, nipples, elbows, pipes, labor, etc.,	-	-	41 16
1273	Thomas Phillips & Co., plumber's work, etc.,	-	-	285 78
1274	Warren Foundry & Machine Co., cast iron water pipes,	-	-	10,473 34
1275	Hammond, Angell & Co., printing,	-	-	112 38
1276	Architectural Iron Works, on account of roofs for engine house at Pettaconset,	-	-	6,000 00
1277	Paulding Kemble & Co., on account for constructing pump- ing engine,	-	-	104 92
1278	Providence & New York Steamship Co., freight on iron work, (charged to Architectural Iron Works),	-	-	66 92
1279	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
1280	Samuel M. Gray,	-	-	250 00
1281	Otis F. Clapp,	-	-	208 33
1282	Howard A. Carson,	-	-	208 33
1283	William T. Schneider,	-	-	100 00
1284	C. Frank Allen,	-	-	100 00
1285	John E. Bowen,	-	-	100 00
1286	Lucius J. Sampson,	-	-	100 00
1287	Daniel D. Waterman,	-	-	83 33
1288	Lepilete Sweet 2d,	-	-	83 33
1289	Edmund B. Weston,	-	-	83 33
1290	Henry N. Francis,	-	-	83 33
1291	William F. Janes,	service pipe	-	83 33
1292	Augustus F. Nagle,	mechanical	-	200 00
1293	Edwin P. Dawley,	as student, engineering department,	-	41 67
1294	Charles M. Hunt,	" " " "	-	33 33
1295	Frank B. Ferris,	" " " "	-	33 33
1296	Thomas L. Botts,	" " " "	-	33 33
1297	William M. Brown, Jr.	" " " "	-	41 67
1298	Daniel C Stone,	" " " "	-	41 67
1299	George B. Francis,	" " " "	-	25 00
1300	Charles A. Harper,	" " " "	-	25 00
1301	Alfred E. Martin,	" " " "	-	25 00
1302	Walter F. Slade,	service pipe clerk, engi- neering department,	-	83 33
1303	William Aplin,	as clerk, engineering department,	-	83 33
1304	William H. Turner,	" " " "	-	100 00
1305	Irving H. Potter,	" " " "	-	60 75
1306	Andrew B. Purdy,	superintendent of pipe work,	-	166 67
	Amount carried forward,	-	-	\$126,967 07

	Amount brought forward,	-	-	\$126,967 07
1307	Samuel R. Eccleston, salary as inspector of pipes,	-	-	130 00
1308	S. Horace Wheeler, " " service pipes,	-	-	125 00
1309	Henry M. Wilcox, " assistant inspector of service pipes,	-	-	100 00
1310	Simson Noell, " inspector of engine work,	-	-	250 00
1311	Frederic A. Arnold, " " " water fixtures,	-	-	100 00
1312	Albert C. Winsor, " assistant inspector of water fixtures,	-	-	78 00
1313	Edward A. Moran, " inspector of meters,	-	-	83 33
1314	John Lyons, " plumber, meter department,	-	-	67 50
1315	John D. Curley, " " " " "	-	-	51 00
1316	George H. Slade, " temporary assistant, engineering department,	-	-	34 80
1317	Albert E. Angell, " temporary assistant, engineering department,	-	-	33 75
1318	Edward C. Reynolda, " temporary assistant, engineering department,	-	-	40 50
1319	Geo. W. Winsor, Jr., " temporary assistant, engineering department,	-	-	39 00
1320	Henry G. Dennis, " superintendent of pipe yard,	-	-	125 00
1321	Richard M. Wood, " clerk at " "	-	-	66 67
1322	Jeptha Baker, " keeper at Sockanosset Reservoir,	-	-	80 00
1323	George F. Battey, " pumping engineer, Pettaconset,	-	-	100 00
1324	John Hamilton, " fireman, " "	-	-	80 00
1325	George F. Barney, " " " " "	-	-	60 00
1326	John Quinn, " pumping engineer, Hope Station,	-	-	125 00
1327	Joseph F. Plant, " " " " "	-	-	90 00
1328	Thomas Miller, " fireman, " " "	-	-	65 00
1329	Michael Hamill, " " " " "	-	-	65 00
1330	William F. Tanner, " axeman,	-	-	51 20
1331	Henry O. Kelly, testing cement,	-	-	13 50
1332	Henry Wright, " " " "	-	-	26 00
1333	J. Wheaton Allen, salary as commissioners' clerk,	-	-	66 67
1334	Leonard N. Austin, Jr., " " " "	-	-	75 00
1335	Thomas C. Gushee, " " " "	-	-	100 00
1336	Phillip S. Chase, " " " "	-	-	150 00
1337	Clinton D. Sellew, " secretary of water commissioners,	-	-	200 00
1338	John Purnell, care of rooms,	-	-	55 15
1339	Charles H. Pierce, paid by him for sundries,	-	-	112 41
1340	" " " " labor,	-	-	615 45
1341	Samuel M. Gray, " " " " at Hope Reservoir,	-	-	171 82
1342	" " " " sundries,	-	-	98 60
1343	Clinton D. Sellew, " " " " "	-	-	56 87
1344	George H. DeForest, salary as time keeper,	-	-	81 00
1345	Bugbee & Hall, tracing cloth, drawing paper, etc.,	-	-	65 44
1346	Knowles, Anthony & Danielson, advertising,	-	-	28 55
1347	J. M. Baker, book case, labor, etc.,	-	-	19 49
1348	John H. Eddy, floor brush and foot steps,	-	-	7 00
1349	Charles F. Pope, powder, fuse, etc.,	-	-	15 72
1350	Earl Carpenter & Sons, ice,	-	-	87 88
	Amount carried forward,	-	-	\$131,054 37

	Amount brought forward,	-	-	\$181,054 87
1351	Tuttle & Hobbs, horse keeping, etc.,	-	-	184 15
1352	Holden & Lovett, horse-shoeing,	-	-	13 25
1353	L. H. Tillinghast & Co., tin pipe, solder, etc.,	-	-	14 78
1354	P. A. Conley, use of derrick,	-	-	10 00
1355	Friends' School, storage of granite,	-	-	80 00
1356	John H. Eddy, brooms, etc.,	-	-	11 14
1357	A. C. Eddy & Studleys, hose and couplings,	-	-	15 00
1358	B. F. Almy, cop waste,	-	-	13 00
1359	J. L. Pierce & Co., sperm oil,	-	-	84 83
1360	A. W. Page, tallow,	-	-	43 78
1361	Mason, Chapin & Co., muriatic acid, charcoal, etc.,	-	-	9 58
1362	C. E. Jencks, carpenter's work, lumber etc.,	-	-	6 80
1363	Union Water Meter Co., water meters, etc.,	-	-	261 75
1364	S. Knobb, teaming,	-	-	92 85
1365	Daniel F. Burlingame, blacksmith's work,	-	-	25 05
1366	Providence Steam and Gas Pipe Co., pipe, couplings, elbows, nipples, etc.,	-	-	126 03
1367	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	266 94
1368	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	201 28
1369	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	1,000 00
1370	Samuel M. Gray, paid by him for labor at Pettaconset, etc.,	-	-	965 96
1371	" " on account for payments for labor at Pettaconset,	-	-	500 00
1372	Burrows Chace, salary as inspector at Hope Reservoir,	-	-	130 00
1373	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	7,456 72
1374	Hopkins & Pomroy, coal, cement, etc.,	-	-	1,749 99
1375	Fales, Jenks & Sons, water meters,	-	-	1,194 10
1376	William D. Gelette, use of transit,	-	-	5 00
1377	William H. Miller & Co., blacksmith's work on tools,	-	-	21 22
1378	W. Coleman & Sons, blocks. etc.,	-	-	27 69
1379	N. Webber, rubber boots,	-	-	17 00
1380	G. W. Edmunds, repairing wagons,	-	-	7 16
1381	Henry T. Root, feather dusters and floor brush,	-	-	12 96
1382	A. C. Eddy & Studleys, hose and door mat,	-	-	12 25
1383	Providence Steam Engine Co., machinists' labor, etc.,	-	-	78 75
1384	Lincoln Manufacturing Co., soap,	-	-	10 20
1385	Charles H. West, wagon and harness,	-	-	215 00
1386	Thomas Phillips & Co., plumber's tools, etc.,	-	-	54 30
1387	William H. Fenner & Co., stoves for pipe yard, etc.,	-	-	65 80
1388	Dexter Gorton, & Co., carpenter's work, lumber, etc.,	-	-	123 32
1389	Providence and New York Steamship Co., freight on iron work, (charged to Architectural Iron Works),	-	-	76 32
1390	Wood & Winsor, gauges, nipples, pipe, labor etc.,	-	-	45 29
1391	Architectural Iron Works, on account for roofs for engine house at Pettaconset,	-	-	10,000 00
	Amount carried forward,	-	-	\$156,283 61

	Amount brought forward,	-	\$156,283 61
1392	Providence Pile Driving Co., furnishing and driving piles, (charged to Paulding, Kemble & Co.),	-	389 50
1393	Builder's Iron Foundry special castings, etc.,	-	363 60
1394	T. & W. Breck, rent of offices, etc.,	-	877 50
1395	Charles H. Pierce, paid by him for labor,	-	68 37
1396	Thomas J. Hill, rent of wharf,	-	500 00
1397	John A. Moore, coal,	-	217 50
1398	Henry Taylor, on account for painting engine house etc., at Pettaconset,	-	180 00
1399	L. H. Tillingham & Co., solder,	-	32 68
1400	Luther & Company, repairing tide gauge clock,	-	15 00
1401	Alva Carpenter, valve boxes, dampers, etc.,	-	37 80
1402	J. M. Schmid & Sons, repairing tape lines, etc.,	-	14 55
1403	Akerman & Co., blank books, mounting maps, etc.,	-	17 40
1404	Providence and New York Steamship Co., freight of iron work, (charged to Architectural Iron Works),	-	101 95
1405	Gladding Bros., & Tibbitts, stationery,	-	89 08
1406	Daniel F. Burlingame, blacksmith's work,	-	13 91
1407	Samuel M. Gray, paid by him for labor,	-	54 85
1408	J. Herbert Shedd, salary as chief engineer,	-	2,000 00
1409	Charles H. Pierce, " assistant engineer,	-	250 00
1410	Samuel M. Gray, " " "	-	250 00
1411	Otis F. Clapp, " " "	-	208 33
1412	Howard A. Carson, " " "	-	208 33
1413	William T. Schneider, " " "	-	100 00
1414	C. Frank Allen, " " "	-	100 00
1415	John E. Bowen, " " "	-	100 00
1416	Lucius J. Sampson, " " "	-	100 00
1417	Daniel D. Waterman, " " "	-	83 33
1418	Leprilte Sweet, 2d, " " "	-	83 33
1419	Edmund B. Weston, " " "	-	83 33
1420	Henry N. Francis, " " "	-	83 33
1421	William F. Janes, " service pipe engineer,	-	83 33
1422	Augustus F. Nagle, " mechanical "	-	200 00
1423	Edwin P. Dawley, " student, engineering department,	-	41 67
1424	Charles M. Hunt, " " " "	-	33 33
1425	Frank B. Ferris, " " " "	-	33 33
1426	Thomas L. Botts, " " " "	-	33 33
1427	William H. Olmstead, " " " "	-	36 56
1428	Daniel C. Stone, " " " "	-	41 67
1429	George B. Francis, " " " "	-	25 00
1430	Charles A. Harper, " " " "	-	25 00
1431	Alfred E. Martin, " " " "	-	25 00
1432	Walter F. Slade, " service pipe clerk, engineer- ing department,	-	83 33
1433	William Aplin, " clerk engineering department,	-	83 33
1434	William H. Turner, " " " "	-	100 00
1435	Irving H. Potter, " " " "	-	54 00
1436	Andrew B. Purdy, " superintendent of pipe work,	-	166 67
	Amount carried forward,	-	\$163,942 83

	Amount brought forward,	-	\$163,942 83
1437	S. Horace Wheeler, salary as inspector of service pipes,	-	125 00
1438	Henry M. Wilcox, " asst. " " "	-	100 00
1439	Samuel R. Eccleston, " inspector of pipes,	-	120 00
1440	Frederic A. Arnold, " " water fixtures,	-	100 00
1441	Albert C. Winsor, " asst. " " "	-	72 00
1442	Edward A. Moran, " inspector of meters,	-	83 33
1443	John Lyons, " plumber, meter department,	-	60 00
1444	Simeon Noell, " inspector of engine work,	-	250 00
1445	Albert E. Angell, " temporary assistant, engineer- ing department,	-	30 00
1446	George H. Slade, " temporary assistant, engineer- ing department,	-	36 00
1447	Edward C. Reynolds, " temporary assistant, engineer- ing department,	-	36 00
1448	George W. Winsor, Jr., " temporary assistant, engineer- ing department,	-	34 50
1449	Henry G. Dennis, " superintendent of pipe yard,	125 00	
1450	Richard M. Wood, " clerk " "	-	66 67
1451	Jeptha Baker, " keeper of Sockanosset Reser- voir,	-	70 00
1452	Burrows Chace, " keeper of Hope Reservoir,	-	65 00
1453	John Hamilton, " fireman, Pettaconset,	-	80 00
1454	George F. Barney, " " "	-	60 00
1455	John Quinn, " pumping engineer, Hope station,	125 00	
1456	Joseph F. Plant, " " " "	-	90 00
1457	Thomas Miller, " fireman, Hope station,	-	65 00
1458	Michael Hamill, " " " "	-	65 00
1459	William F. Tanner, " axeman,	-	44 00
1460	Henry Wright, " testing cement,	-	24 08
1461	J. Wheaton Allen, " commissioners' clerk,	-	66 67
1462	Leonard N. Austin, Jr. " " "	-	75 00
1463	Thomas C. Gushee, " " "	-	100 00
1464	Philip S. Chase, " " "	-	150 00
1465	Clinton D. Sellew, " secretary of water commiss'rs,	200 00	
1466	Joseph J. Cooke, " water commissioner,	-	500 00
1467	Charles E. Carpenter, " " "	-	500 00
1468	William Corliss, " " "	-	500 00
1469	John Purnell, care of rooms,	-	52 41
1470	Charles H. Pierce, paid by him for sundries,	-	68 51
1471	" " " labor,	-	593 74
1472	Samuel M. Gray, " " sundries,	-	91 63
1473	Abbott Lawrence, carting meters,	-	16 48
1474	S. A. Thornton, carpenters' work, etc.,	-	6 30
1475	Hopkins & Pomroy, coal, etc.,	-	417 13
1476	Providence Steam Engine Co., labor of machinist, etc.,	-	155 36
1477	Barker, Whitaker & Co., tools, etc.,	-	134 12
1478	Dexter Gorton & Co., carpenters' work, lumber, etc.,	-	107 92
			<hr/>
			\$169,604 68

RECEIVED FROM DECEMBER 1, 1874, TO FEBRUARY 27, 1875, IN-
CLUSIVE, AND PAID TO THE CITY TREASURER.

1874.			
Dec.	4.	Of Samuel M. Gray, for sundries,	31 63
		Of Samuel M. Gray, " " "	2 40
	5.	Of Cove Foundry and Machine Co., for wharfage,	3 00
	8.	Of Amos C. Barstow, for labor and materials,	157 64
	11.	Of Nicholson File Co., " " "	175 66
		Of John Smurthorst, for three month's rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to March 1, 1875,	56 25
		Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to December 12, 1874,	14 58
	14.	Of W. A. Burdick, Agent, for labor,	4 85
		Of City of Providence, Brook street commissioners, for labor and materials,	93 74
	16.	Of Samuel M. Gray, for sundries,	2 87
	18.	Of Prov. Steam and Gas Pipe Co., for labor and materials,	569 95
		Of Samuel M. Gray, for sundries,	2 41
	28.	Of City of Providence, Brook street commissioners, for labor and materials,	89 65
		Of H. B. Leach & Sons, for labor and materials,	14 28
	29.	Of Fall River Water Works, for drinking cups and chain,	10 00
	30.	Of Butler Hospital for the Insane, for labor and materials,	4,182 12
1875.			
Jan.	1.	Of Heirs of George A. Howard, " " "	83 43
		Of Peleg P. Cranston, for three month's rent of Randall estate, so called, in Pawtuxet, to Jan. 1, 1875,	50 00
	2.	Of Hebron Manufacturing Co., for labor and materials,	199 27
	7.	Of Stafford & Co., for six months' rent of Pawtuxet Mill, to January 1, 1875,	400 00
	9.	Of Phineas A. Conley, for grass and pasturage on farm purchased of S. B. Gardiner,	50 00
	12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to January 12, 1875,	14 58
	23.	Of City of Providence, for sewer expenses,	6 70
Feb.	6.	Of City of Providence, " " "	1,807 14
	11.	Of Samuel M. Gray, for sundries,	2 09
	12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to February 12, 1875,	14 58
	17.	Of Chicopee Manufacturing Co., for inspection of pipes,	25 40
	24.	Of H. B. Leach & Sons, for labor and materials,	21 53
	27.	For setting and repairing meters during the present quarter,	685 11
		For laying service pipes during the present quarter,	303 18
		For water during the present quarter,	104,852 71
		For meters during the present quarter,	3,962 20
		For penalties during the present quarter,	64 00
			<hr/> \$117,932 95

TRIAL BALANCE OF LEDGER, FEBRUARY 27, 1875.

DR.

Hope reservoir, for land, . . .	\$118,229 65
“ “ “ sundries, . . .	1,562 53
“ “ “ labor, . . .	6,305 34
“ “ “ gate chambers, . . .	9,596 51
“ “ “ gate houses, . . .	2,067 18
“ “ “ drain, . . .	404 03
“ “ “ inspection, . . .	7,059 09
“ “ “ conduit, . . .	3,661 95
“ “ “ slope wall, . . .	43,127 81
Hope engine house, . . .	105,124 72
Sockanosset reservoir, for construction, . . .	177,870 72
“ “ “ sundries, . . .	124 45
“ “ “ land, . . .	14,435 36
“ “ “ gate houses, . . .	18,630 57
“ “ “ drain, . . .	2,431 13
“ “ “ inspection, . . .	6,819 18
“ “ “ extra work and materials, . . .	189 70
“ “ “ gate chambers, . . .	19,299 27
“ “ “ improvement of grounds, . . .	4,907 36
“ “ “ steps, . . .	2,667 87
Line of leading mains, for labor and materials, . . .	19,918 61
“ “ “ extra trenching, etc., . . .	472 45
“ “ “ land and damages, . . .	1,665 00
Force main line, for land and damages, . . .	3,006 35
“ “ “ labor and materials, . . .	5,113 28
“ “ “ extra trenching, etc., . . .	332 56
Office furniture, stoves, gas fixtures, etc., . . .	1,266 88
Rent of offices, . . .	2,486 12
Books, stationery, etc., . . .	545 62
Fuel and lights, . . .	202 19
Horse hire by commissioners, . . .	19 00
Traveling expenses of commissioners, . . .	161 92
Janitor of rooms, . . .	409 44
Commissioners' salaries, . . .	20,042 14
Secretary's salary, . . .	2,055 59
Clerks' salaries, . . .	3,536 53
Sundries, . . .	327 23
Printing, . . .	1,969 21
Advertising, . . .	1,874 16
Fences, . . .	2,050 38
Rent of wharves and pipe yards, . . .	5,764 55
Stop valves, . . .	63,671 94
Amount carried forward, . . .	\$681,405 57

Amount brought forward,	\$681,405 57
Linking curved pipes,	232 75
Store house and workshop,	1,207 38
Tools,	9,979 26
Labor on pipes,	16,408 27
Cast iron water pipes,	1,270,280 80
Special castings,	95,933 80
Lumber,	1,576 30
Fire hydrants,	95,790 21
Sockanosset hill cross-road,	3,855 38
Pettaconset and Sockanosset telegraph line,	1,908 14
Dwelling houses at Pettaconset,	9,666 78
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,557 92
Real estate in Warwick,	11,786 82
Water privileges, mill, and other real estate in Pawtuxet,	45,892 43
Pochasset bridge,	5,559 82
Wharf salaries,	8,967 82
Temporary engine house at Pettaconset,	9,756 78
Roads, slopes, etc., at Pettaconset,	11,946 30
Engine house at Pettaconset,	285,049 69
Natural filter basin,	41,518 35
Removing loam,	462 95
Iron screw piles,	3,766 46
Hydrant bolts,	1,698 93
Pipe bolts,	1,745 42
Photographs,	284 25
Hydrant heads,	7,443 00
Taps and stops,	16,045 54
Valve covers,	8,219 84
Service pipe,	42,018 17
Hydrant boxes,	26,837 67
Setting fire-hydrants,	10,242 24
Check valves,	1,412 48
Valve boxes,	29,435 22
Air cocks, boxes, covers and setting,	524 55
Setting blow-offs,	331 49
Pettaconset pumping station, for land,	25,900 93
Lobdell & Newmans,	136,400 00
A. & W. Sprague Manufacturing Company,	2,500 00
Samuel M. Gray,	500 00
Paulding, Kemble & Co.,	89,859 85
Sewer department, salaries and office expenses,	1,972 54
Phenix Iron Company,	154 00
Henry R. Worthington,	17 09
Thomas Phillips & Co.,	1,012 96
City of Providence, sewer department,	31,750 99
Ellery Millard,	2 13
Amount carried forward,	\$3,059,534 61

Amount brought forward,	\$3,039,534 61
Providence Concrete Company,	200 00
Architectural Iron Works,	20,876 52
James Glass,	21 50
Henry Taylor,	150 00
City of Providence, public bridges,	176 03
Fales, Jenks & Sons,	30
City Treasurer,	173,947 03
City Treasurer, for water payments,	367,218 28
Testing pipe iron,	443 50
Iron drain pipes and gate,	224 21
Carting pipes,	38,573 03
Counsel fees,	5,500 00
Inspection of pipes,	10 259 81
Testing bolts and composition castings,	34 25
Laying water pipes,	389,623 41
Laying service pipes,	23,694 19
Laying suction pipe, etc.,	85 00
Drainage pump and engine,	5,110 72
Hydrants for street sprinklers, etc.,	2,540 93
Inspection of pipe laying,	28,192 10
Temporary boarding house at Pettaconset,	1,395 24
Public drinking fountains and troughs,	2,340 43
Warwick test pits,	1,313 40
Engine house at Pettaconset, for drain,	2,132 37
Water meters set belonging to the city,	1,258 72
Worthington pumping engine,	35,522 33
Hope pumping engine,	63,104 67
Cornish pumping engine,	9,998 06
Keeper's house at Sockanosset reservoir,	7,000 26
Pipe in river embankment at Pettaconset,	4,047 82
Inspection of engine work,	1,404 58
	<hr/> \$4,260,943 90

ENGINEERING DEPARTMENT:—

For Instruments,	\$3,166 53
Tools,	719 82
Furniture, stoves, gas fixtures, etc.,	2,798 73
Draughting,	3,523 52
Labor,	8,113 58
Horse and wagon account,	2 205 94
Horse keeping, shoeing, etc.,	1,940 35
Horse hire,	4,488 90
Rent of offices,	6,304 07
Fuel and lights,	670 37
Janitor of rooms,	1,158 60
Experimental filter,	91 08
Books, stationery, etc.,	3,194 19
	<hr/>
Amounts carried forward,	\$38,375 68 \$4,260,943 90

Amounts brought forward,	\$38,375 68	\$4,260,943 90
Sundries,	3,155 91	
Test wells,	1,579 40	
Consultations,	827 08	
Office building at Pettaconset,	567 60	
" " " Sockanosset reservoir,	563 22	
Stakes and strips,	1,262 91	
Printing,	522 00	
Maps,	86 67	
Service pipe experiments,	296 04	
Temporary assistance,	8,817 21	
Salaries,	100,351 89	
		<u>\$156,405 61</u>

MAINTENANCE:—

Hope pumping station, for coal and wood,	\$4,663 54	
" " " " engineer,	1,792 56	
" " " " firemen,	1,084 65	
" " " " lights,	1,192 12	
" " " " sundries,	448 53	
" " " " night and Sunday watch,	41 23	
Pettaconset pumping station, for coal and wood,	22,211 68	
" " " " engineer,	5,295 19	
" " " " firemen,	5,077 03	
" " " " labor on fuel,	1,600 89	
" " " " sundries,	3,771 93	
" " " " night and Sunday watch,	2,118 73	
Sockanosset reservoir for watch,	2,869 25	
" " " " sundries,	4,622 60	
Hope reservoir, for watch,	65 00	
Ascertaining and removing nuisances on Pawtuxet river,	479 46	
Worthington pumping engine,	6,122 50	
Miller boilers at Pettaconset,	130 91	
Change of grades,	1,614 51	
Inspection of water fixtures,	3,556 38	
Repairs on pipe line,	194 80	
Meter testing room,	244 75	
Setting, inspection and repair of meters,	747 97	
Commissioners' salaries,	6,333 35	
Secretary's salary,	2,055 68	
Clerks' salaries,	4,281 04	
Rent of offices,	1,023 60	
Fuel and lights,	48 95	
Janitor of rooms,	206 44	
Books, stationery, etc.,	530 32	
Amounts carried forward,	\$84,425 19	\$4,417,349 51

REPORT OF THE WATER COMMISSIONERS.

29

Amounts brought forward,	.	.	.	\$84,425 19	\$4,417,349 51
Printing,	.	.	.	629 06	
Advertising,	.	.	.	83 41	
Sundries,	.	.	.	286 65	
Counsel fees,	.	.	.	1,000 00	
Engineering department, for rent of offices,	.	.	.	2,153 20	
“ “ “ fuel and lights,	.	.	.	121 75	
“ “ “ janitor of rooms,	.	.	.	424 34	
“ “ “ books, stationery, etc.,	.	.	.	72 92	
“ “ “ printing,	.	.	.	132 12	
“ “ “ salaries,	.	.	.	13,083 48	
“ “ “ sundries,	.	.	.	13 24	
				<hr/>	102,425 36
					<hr/>
					\$4,519,774 87

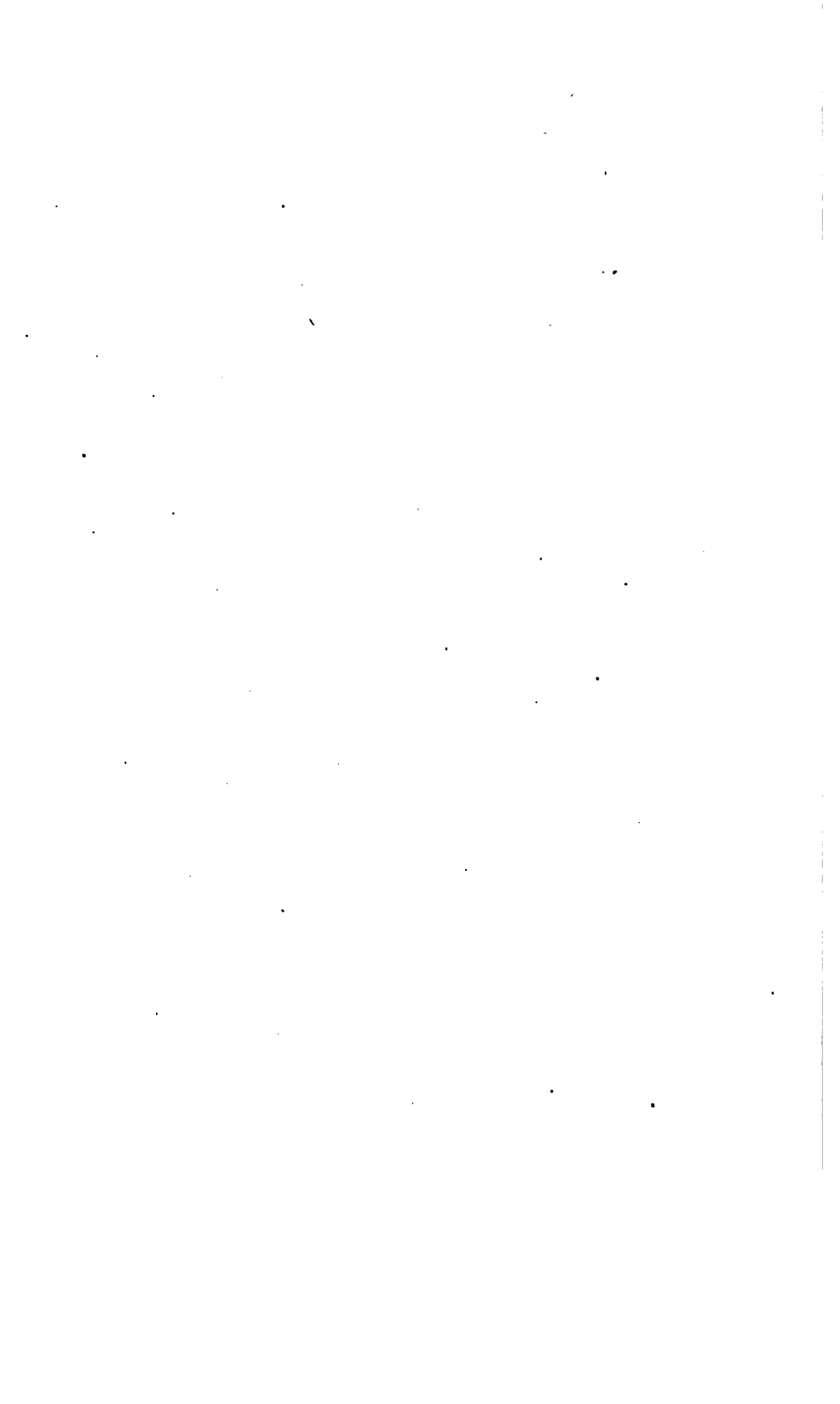
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Warren Foundry and Machine Company,	.	.	.	\$8,790 00	
G. B. & W. F. Inman,	.	.	.	3,000 00	
Boston hydrants,	.	.	.	29 07	
Water meters,	.	.	.	1,899 48	
Penalties,	.	.	.	268 00	
Water,	.	.	.	367,218 28	
W. A. Burdick, Agent,	.	.	.	550 00	
Approved bills,	.	.	.	4,138,020 04	
				<hr/>	\$4,519,774 87

**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO MARCH 1st, 1875.**

MONTHS.	1872.	1873.	1874.	1875.
January .....	.....	\$40,699 09	\$69,356 70	\$92,102 10
February.....	\$796 06	4,314 80	3,678 96	4,674 19
March.....	6,671 82	6,669 73	9,221 19	.....
April.....	1,668 59	2,810 07	4,936 98	.....
May.....	2,063 41	1,766 28	2,338 59	.....
June	8,634 89	8,228 92	2,583 35	.....
July	3,488 27	6,214 24	13,756 51	.....
August	1,818 14	1,441 09	1,953 37	.....
September.....	4,933 44	7,550 64	5,541 34	.....
October.....	5,019 08	8,745 53	9,097 95	.....
November.....	477 04	872 83	1,511 03	.....
December.....	5,372 77	8,072 87	8,076 42	.....
	\$41,003 51	\$97,386 09	\$132,052 39	\$96,776 29





1875.]

CITY DOCUMENT.

[No. 27.]

FIFTH QUARTERLY REPORT

OF THE BOARD OF

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE,

[Elected February 27, 1874.]

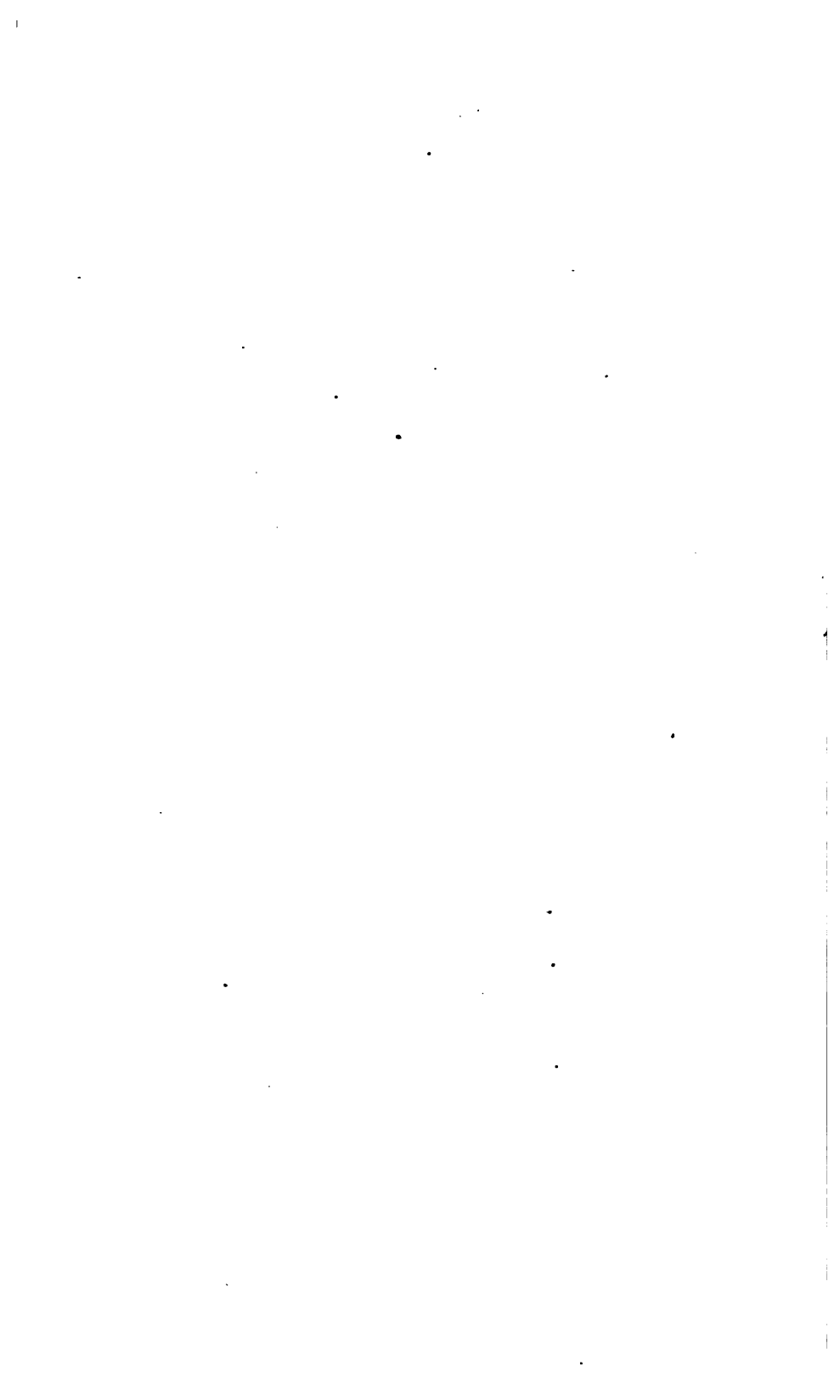
JUNE 1, 1875.



PROVIDENCE:

ANGELL, BURLINGAME & CO., PRINTERS TO THE CITY.

1875.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main Street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main Street.

REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
Providence, R. I., June 1, 1875. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned Water Commissioners, elected February 27th, 1874, under "An Ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their Fifth Quarterly Report:

The salary of Richard M. Wood, clerk at Pipe Yard, has been increased to one thousand dollars per annum, dating from May 1, 1875.

William M. Brown, Jr., who has been a student in the engineering department, has been appointed an Assistant Engineer, with a salary of one thousand dollars per annum, dating from February 1, 1875.

Daniel C. Stone, who has also been a student in the engineering department, has been appointed an Assistant Engineer, with a salary of one thousand dollars per annum, dating from May 1, 1875.

The farm in Warwick, purchased of Richard U. Rhodes and wife, has been leased to John Smurthurst for one year from

March 1, 1875, at two hundred and twenty-five dollars, payable quarterly in advance.

A certain lot or parcel of land situated in the village of Pawtuxet, in the town of Warwick, being a portion of the mill property formerly leased to Stafford & Co., has been leased to Henry L. Johnson, at the rate of eighty-seven dollars per year, payable quarterly; the lease to terminate on three months notice from either party.

On the 29th of April, the Commissioners advertised for proposals for trenching and back-filling and laying water pipes during the remainder of the present year. The proposals received were opened May 10th, and the contract was awarded to Foster S. Dennis, of New Bedford, Mass. A contract was subsequently duly executed with him.

An offer of Tucker, Swan & Co., to furnish 1500 net tons of Delaware and Hudson Canal Co's Lackawanna coal, grate size, to be delivered as required at Pettaconset, at \$7.20 per ton, and 500 tons same coal, stove size, delivered at Hope Pumping Station, at \$7.00 per ton, has been accepted.

An offer of Fales, Jenks & Sons, to furnish, as may be required,—

Street Hydrants, at one hundred and six (106) dollars each;
Hydrant Boxes at twenty-seven $\frac{50}{100}$ (27.50) dollars each;
Eight inch Water Gates at forty-two (42) dollars each, and
Six inch Water Gates at thirty (30) dollars each, has been accepted.

An offer of the Architectural Iron Works of New York, to furnish and erect Roof, of Gate House at Hope Reservoir, prepared for slate with perkins and iron lath prepared for plaster, all iron work galvanized, for the sum of six hundred and twenty-five dollars (\$625.00), has been accepted.

An offer of the Architectural Iron Works, to furnish and erect Gallery in Engine House at Pettaconset, according to plans, for the sum of forty-five hundred dollars, (\$1,500,) has been accepted.

An offer of the Architectural Iron Works to furnish and erect Stairs around Stand Pipe in Engine House at Pettaconset, as per plans, for the sum of three thousand dollars, (\$3,000.00) has been accepted.

It is expected that Hope Reservoir, Pettaconset Engine House, the Cornish Engine and the second engine for Hope Pumping Station, will all be completed during the present quarter.

The daily consumption of water, including waste and leakage, at the present time is about 2,250,000 gallons.

Plumber's licenses have been issued as follows :

William H. Almy, John R. Macomber, James K. Hanney.

The whole number of plumber's licenses issued is fifty-seven. Suspended, two. Revoked, one. Remaining in force, fifty-four.

The cost of replacing pipes broken by frost during the almost unprecedented cold of the past winter, including materials, is about seven thousand dollars.

The cost of thawing pipes, gates, etc., is about twelve hundred dollars.

The cost of filling tanks for water takers while the regular supply was cut off by frost, is about thirteen hundred dollars.

The following is a list of distributing pipes broken by freezing during last winter :—

Diameter of pipes.	Depth to which pipes are laid.	Number of streets frozen.	Number of pipes broken.	No. of branches broken.	Side of street.	Approximate length of streets deprived of water.	†Total length of distribution.	
Inches	Feet.					Feet.	Feet.	
8	*4½				Sunny.	70		Loose, sandy soil, undrained.
8	4½				Shady.	40		" " " "
8		2	5	2		110	70,068	
6	*4½	7			Sunny.	3,910		Loose, sandy soil, undrained.
6	4½	13			Shady.	5,775		" " " "
6	4½	2			"	390		" " " drained.
6	6	1			"	270		" " " undrained.
6	3½	1			"	360		" " " "
6	3½	1			"	415		" " " "
6	3	1			Sunny.	175		" " " "
6	2½	1			Shady.	135		" " " "
6			355	23		11,430	358,282	

* Standard depth to centre of pipe.

† Total length of distribution, all sizes, 20 inch. to 6 inch., 492,547 feet.
Total length of pipe laid, (including 36 inch. and under,) 584,429.

Of the 4,920 services, 720 were reported closed by freezing, many of which were on streets where the mains were not frozen.

The following statement shows the length of pipes laid during the last quarter, (exclusive of pipes broken by frost, replaced); the sizes of the pipes; where laid, and the totals since the commencement of the work:

16 INCH.

In Olney street, at Thayer street,	33 feet.
Including 1 cut pipe, 2 curved pipes, 2 branches and 1 gate.	
Previously, - - - -	21,533 feet.
Total, - - - -	21,566 feet.

8 INCH.

In Cypress, Plane and Square streets,	-	1,713 feet.
Including 7 cut pipes, 9 branches and 1 gate.		
Previously,	- - - - -	70,068 feet.
Total,	- - - - -	<u>71,781 feet.</u>

6 INCH.

In Bishop, Blackstone, Bucklin, Dora, French, Hawkins, Hawthorne, Ivy, Mawney, Perkins, Rice, Spring, Taylor, Vineyard and Willard streets ; in Adelaide, Chapin, East and Harvard avenues,	- - -	7,398 feet.
Including 33 cut pipes, 10 curved pipes, 17 branches and 16 gates.		
Previously,	- - - - -	358,282 feet.
Total,	- - - - -	<u>365,680 feet.</u>

Total of all sizes during the last quarter,
9,144 feet, or 1.731 miles.

Previously, including 10, 12, 20, 24, 30 and 36 inch, of which none have been laid during the last quarter,	- - - - -	584,429 feet.
Total,	- - - - -	<u>593,573 feet.</u>
or 112.419 miles		

Fifteen fire hydrants have been set during the last quarter, one in each of the following locations:—

Bishop street, north side, about 190 feet east of Plane street.

Bishop “ south east corner of street next west of Eddy street.

Blackstone street, northwest corner of Hawkins street.

Chapin avenue, north side, half way between Parade and Sycamore streets.

Cypress street, south west corner of Ivy street.

Cypress " south west corner of East avenue.

Dora " south east corner of Taylor street.

Harvard avenue, north side, about 240 feet east of Broad street. -

Mawney street, north side, about 360 feet west of Bucklin street.

Olney street, north side, about half way between Camp street and East avenue.

Perkins street, north corner of Saunders street.

Plane " north west corner of Bogman street.

Rice " west side, about 200 feet north of A street.

Spring " north side, about half way between Broad and Lockwood streets.

Vineyard " west side, opposite north line of Hawthorne street.

The total number of fire hydrants is now eight hundred and thirty two.

One hydrant has also been set for use in filling sprinkling carts, etc., and one hydrant previously set for this purpose has been removed. The number of such hydrants is now twenty-five; a portion of which can be used with a single line of hose for extinguishing fires.

The height of water in Sockanosset Reservoir at 7 o'clock this morning was 179.91. High water in the reservoir is 180.50 (above high tide in Providence River.)

Five Ball & Fitts' water meters made by the Union Water Meter Co., and ninety-one water meters made by Fales, Jenks & Sons, have been put in at the expense of water takers, since the date of the last report. Eighteen Ball & Fitts' water meters seriously injured by frost, have been changed, at the expense of water takers, for meters made by Fales, Jenks & Sons; and one Fales, Jenks & Sons' meter has been replaced by a Ball & Fitts' meter. The use of seven Ball & Fitts' meters

has been discontinued, and the parties now pay schedule rates. The use of one other Ball & Fitts' meter has been discontinued, the building having been taken down.

There are now two thousand and fourteen water meters in use, viz:—

KIND.	SIZES.						TOTALS.
	$\frac{5}{8}$ inch.	$\frac{3}{4}$ inch.	1 inch.	$1\frac{1}{2}$ inch.	2 inch.	4 inch.	
Ball & Fitts...	1,243	225	82	45	9	1	1,605
Worthington,.	170	....	....	....	....	1	171
Fales, Jenks & Sons .....	....	223	15	....	....	....	238
	1,413	448	97	45	9	2	2,014

The total number of applications for a supply of water is six thousand and eighty-two.

The number of new service stops opened during the last quarter is three hundred and one.

The number of service stops opened to date is fifty-one hundred and twenty-one.

Six stops have been closed during the last quarter for non-payment of bills, five of which have been re-opened on payment of bills and a penalty in each case of two dollars; and one was re-opened on payment of the bill, without charge for penalty, for reason of attendant circumstances. Twenty-two stops previously closed for non-payment, have been re-opened during the last quarter; in nineteen cases the bills, and a penalty of two dollars, were paid, and three, for reason of attendant circumstances, were re-opened on payment of the bills, without penalty. Thirty-six stops closed for non-payment

remain unopened. The use of five stops has been discontinued, but the pipes remain in view of possible future use.

Water is now supplied for the following uses :—

3 armories ; 8 bakeries ; 36 banks ; 73 bar rooms ; 2 bath houses ; 1 bath house—Turkish ; 107 boarding houses ; 8 bottling establishments ; 32 building purposes ; 1 car house ; 3 carriage depositories ; 3 chasers ; 1 Christian Union ; 26 churches ; 1 city barn ; 1 city bridge—Point street ; 1 city building ; 5 city drinking fountains ; 20 city drinking troughs ; 832 city fire hydrants ; 9 city fire steamer stations ; 3 city hose houses ; 8 club rooms ; 14 coal yards ; 1 colored shelter ; 1 conservatory of music ; 3 convents ; 1 court house ; 1 decorator ; 1 Dexter Asylum ; 2,162 dwellings of one family ; 1,978 dwellings of two families ; 178 dwellings of three families ; 209 dwellings of four families ; 25 dwellings of five families ; 40 dwellings of six families ; 4 dwellings of seven families ; 6 dwellings of eight families ; 1 dwelling of nine families ; 1 dwelling of twelve families ; 2 dye houses ; 5 elevators ; 1 engine turner ; 4 engravers ; 1 express carriage house ; 53 fire supplies, private ; 52 fountains, private ; 1 fountain, public ; 1 furrier ; 2,682 garden and street hydrants ; 4 gas holders ; 6 gold and silver platers ; 6 gold and silver refiners ; 2 grain elevators ; 30 green houses ; 14 halls ; 1 home for aged women ; 2 hospitals ; 16 hotels ; 1 infirmary ; 2 laundries ; 1 lithographer ; 14 lodging houses ; 2 lumber dealers. *Manufacturing establishments*,—2 belt and picker ; 3 blank book ; 2 bleacheries ; 1 bologna sausage ; 1 bonnet bleachery ; 1 boot and shoe ; 1 box ; 1 braiding works ; 2 brass foundries ; 2 breweries ; 1 brush ; 2 butt ; 1 butter ; 8 carriage ; 2 cement pipe ; 1 chain ; 7 cigar ; 1 cigar box ; 16 cloak and dress ; 1 coffin ; 8 confectionery ; 1 corset ; 3 colorers of jewelry ; 8 cotton ; 1 crocus ; 1 distillery ; 3 die sinkers ; 2 dye wood ; 1 emery wheel ; 1 enameler of jewelry ; 1 eyelet ; 3 file ; 9 furniture ; 1 gas ; 1 gas burner ; 4 gas fixtures ; 1 geer ; 2 hat ; 4 harness ; 1 horse shoe ; 2 ice cream and soda water ; 1 iron company ; 1 iron fence ; 10 iron foundries ; 1 japan switch ; 1 jewelers' cards ; 90 jewelry ; 4

lapidaries; 25 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 1 paper box; 1 paper collar; 3 paper cop tubes; 1 pattern; 3 patent medicines; 3 picture frame; 1 print works; 2 pump; 2 reed; 1 rubber tubing; 4 sash and blind; 2 screw; 1 sheet iron; 2 shirt; 3 silverware; 6 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engines; 1 stencil plate; 1 stove; 2 tanners; 2 thread; 1 tin ware; 4 tool; 3 top roll; 6 woolen goods; 1 yeast. *Markets*,—41 fish; 103 meat. *Mills*,—2 drug and grain; 3 flour and grain; 1 paint; 9 planing; 5 marble works; 1 music hall; 1 nickel plater; 16 not classed; 3 odd fellows' halls; 1 opera house; 2 orphan asylums; 5 organs; 5 oyster houses; 507 offices; 10 photographers; 10 printing establishments; 6 plaster and stucco workers; 9 plumbers; 9 provision curers and packers; 6 police stations; 7 railroads; 1 reading room; 42 restaurants; 1 roofer. *Saloons*,—4 billiard; 3 bowling; 7 ice cream; 20 lager beer; 10 oyster. *Schools*,—1 boarding; 12 private; 34 public; 1 reform. *Shops*,—39 barber; 8 blacksmith; 1 carpenter; 3 cooper; 1 gunsmith; 1 junk; 13 paint; 5 shoemaker; 22 tailor; 4 tinman. *Stables*,—6 hack; 43 livery; 253 private; 4 sale; 66 work. 13 steamboats; 13 steamships; 5 steam and gas pipe fitters. *Stores*,—1 agricultural implement; 44 apothecary; 1 auction; 4 book; 29 boot and shoe; 2 carpet; 2 carriage trimmings; 11 cigars; 23 clothing; 9 confectionery; 3 drug; 37 dry goods; 80 fancy goods; 1 florist; 10 flour and grain; 12 fruit; 12 furniture; 12 gents' furnishing goods; 136 grocery, retail; 15 grocery, wholesale; 9 hardware; 2 hide and leather; 2 hoop skirt; 11 house furnishing goods; 4 house paper; 3 iron and steel; 11 jewelry; 11 liquor; 1 lime and brick; 2 manufacturers' supplies; 30 millinery; 11 newspaper; 4 oil and paint; 2 paper and paper stock; 1 piano forte; 7 produce, wholesale; 3 sewing machine; 4 stationery; 2 stove; 3 tea; 2 trunk; 1 toy; 1 umbrella; 2 wooden ware; 1 wool; 2 woolen goods. 1 state prison; 1 store house; 1 theatre; 5 undertakers; 1 United States custom house building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 4 wood yards.

The amount of expenditures during the last quarter, is	- - -	\$192,058 39
The total amount of expenditures, is		4,330,078 43
The total amount of appropriations, is		4,500,000 00
The unexpended balance, is	-	169,921 57

The cost of construction to date, (deducting from the whole amount of approved bills the cost of maintenance, the amount received for labor and materials, etc.; meters; from sewer department for office expenses; estimated amount due from sewer department for engineering, etc., and adding amount of reservations due to contractors,) is - 3,991,098 99

The cost of maintenance to date, is 120,535 32

The amount received during the last quarter, all of which has been paid to the City Treasurer, is

For water supplies,	-	\$17,445 66
For water meters,	-	2,529 30
For penalties,	- -	50 00
For sundries,	- -	37,323 60
		<hr/> 57,348 56

The amount received for water in 1872, was 41,003 51

The amount received for water in 1873, was 97,386 09

The amount received for water in 1874, was 132,052 39

The amount received for water during the first five months of 1875, was - - 114,221 95

The total amount received for water to date, is 384,663 94

The amount of all receipts to date, is 598,513 87

A schedule of bills approved during the last quarter, and of receipts during the same time, a trial balance of ledger, May 31, 1875, and a schedule of receipts for water by months, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers, will be presented.

JOSEPH J. COOKE,	}	<i>Board of Water Commissioners.</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		

SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER COMMISSIONERS, FROM MARCH 1, 1875, TO MAY 31, 1875, INCLUSIVE.

1479	Samuel M. Gray, on account for payments for labor at Pettaconset,	\$500 00
1480	Fales, Jenks & Sons, water meters,	630 80
1481	Freeborn & Crowell, paint, oil and labor,	5 85
1482	A. C. Eddy & Studleys, rubber boots, hose, &c.,	18 19
1483	Hopkins & Poinroy, teaming, &c.,	85 35
1484	Fuller Iron Works, labor, &c., on pump body, &c.,	7 91
1485	Michael Goggins, labor as engineer, thawing gates,	19 50
1486	Providence Steam and Gas Pipe Co., pipe, nipples, elbows, labor, &c.,	36 92
1487	Wood & Winsor, pipe, nipples, elbows, labor, &c.,	28 31
1488	Chaffee & Rider, oil,	43 22
1489	Mason, Chapin & Co., charcoal and sponge,	5 37
1490	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	1,296 42
1491	Paulding, Kemble & Co., on account for constructing pumping engine,	2,090 12
1492	Wm. H. Miller & Co., tools fixtures for boiler, &c.,	156 81
1493	Charles H. Pierce, paid by him for labor,	84 59
1494	Newport & Providence Lead Works, lead,	9 50
1495	George S. Dow, sail,	70 00
1496	Rammond, Angell & Co., printing,	176 45
1497	Providence Steam Engine Co., on account for constructing pumping engine,	11,000 00
1498	Butler, Brown & Co., steam boiler,	208 00
1499	Phenix Iron Co., iron girders and beam,	6,692 01
1500	Providence & New York Steamship Co., freight of iron work, (charged to Architectural Iron Works,)	139 98
1501	Charles H. Pierce, salary as assistant engineer,	250 00
1502	Otis F. Clapp, " " " " "	208 33
1503	Howard A. Carsen, " " " " "	208 33
1504	William T. Schneider, " " " " "	100 00
1505	C. Frank Allen, " " " " "	100 00
1506	John E. Bowen, " " " " "	100 00
1507	Lucius J. Sampson, " " " " "	41 94
1508	Daniel D. Waterman, " " " " "	83 33
1509	Lepilete Sweet, 2d., " " " " "	83 33
1510	Edmund B. Weston, " " " " "	83 33
1511	William F. Jones, " " service pipe engineer,	83 33
1512	Augustus F. Nagle, " " mechanical " "	200 00
1513	Edwin P. Dawley, " " student, engineering department,	41 67
1514	Frank B. Ferris, " " " " "	33 33
Amount carried forward,		\$24,922 22

	Amount brought forward,	-	-	-	\$24,922 23
1515	Thomas L. Botts,	"	"	"	33 33
1516	William H. Olmstead,	"	"	"	33 33
1517	Daniel C. Stone,	"	"	"	41 67
1518	George B. Francis, salary as student, engineering department,				25 00
1519	Charles A. Harper,	"	"	"	25 00
1520	Alfred E. Martin,	"	"	"	25 00
1521	Walter F. Slade,	"	"	service pipe clerk, engineering department,	83 33
1522	William Aplin,	salary as clerk, engineering department,			83 33
1523	William H. Turner,	"	"	"	100 00
1524	Irving H. Potter,	"	"	"	60 75
1525	Andrew B. Purdy,	"	"	superintendent of pipe work,	168 67
1526	S. Horace Wheeler,	"	"	inspector of service pipes,	125 00
1527	Henry M. Wilcox,	"	"	assistant inspector of service pipes,	100 00
1528	Samuel R. Eccleston,	"	"	inspector of pipes,	135 00
1529	Frederic A. Arnold,	"	"	" water fixtures,	100 00
1530	Albert C. Winsor,	"	"	assistant inspector of water fixtures,	81 00
1531	Edward A. Moran,	salary as inspector of meters,			83 33
1532	John Lyons,	"	"	plumber, meter department,	65 00
1533	Simeon Noell,	"	"	inspector of engine work,	250 00
1534	Albert E. Angell,	"	"	temporary assistant, engineering department,	33 75
1535	George H. Slade,	salary as temporary assistant, engineering department,			33 80
1536	Edward C. Reynolds,	salary as temporary assistant, engineering department,			40 50
1537	George W. Winsor, Jr.,	salary as temporary assistant, engineering department,			36 75
1538	Henry G. Dennis,	salary as superintendent of pipe yard,			125 00
1539	Richard M. Wood,	"	"	clerk at pipe yard,	66 67
1540	Jephtha Baker,	"	"	keeper of Nockanosset Reservoir,	77 50
1541	Burrows Chase,	"	"	" Hope Reservoir,	65 00
1542	John Hamilton,	"	"	fireman, Pettaconset,	80 00
1543	George F. Barney,	"	"	"	60 00
1544	John Quinn,	"	"	pumping engineer, Hope Station,	125 00
1545	Joseph F. Plant,	"	"	"	90 00
1546	Thomas Miller,	"	"	fireman, Hope Station,	65 00
1547	Michael Hamill,	"	"	"	65 00
1548	William F. Tanner,	"	"	axeman,	52 00
1549	Henry Wright,	testing cement,			17 89
1550	J. Wheaton Allen,	salary as commissioners' clerk,			66 67
1551	Leonard N. Austin, Jr.,	salary as commissioners' clerk,			75 00
1552	Thomas C. Gushee,	"	"	"	100 00
1553	Phillip S. Chase,	"	"	"	150 00
1554	Clinton D. Sellow,	"	"	secretary of water commissioners,	200 00
1555	William M. Brown, Jr.,	salary as student, engineering department, two months,			83 33
	Amount carried forward,	-	-	-	\$28,252 82

	Amount brought forward,	-	-	\$28,252 82
1556	Charles E. Shedd, salary as temporary assistant, engineering department,	-	-	19 50
1557	John Purnell, salary as janitor, &c.,	-	-	57 75
1558	Samuel M. Gray, engineering services, self and assistants,	-	-	340 96
1559	" " " paid by him for labor,	-	-	39 88
1560	" " " horse hire, &c.,	-	-	96 43
1561	Charles H. Pierce, paid by him for labor,	-	-	747 46
1562	" " " " " " sundries,	-	-	65 43
1563	Providence Pile Driving Co., repairing capst and, (charged to Paulding, Kemble & Co.,)	-	-	19 39
1564	Abbott Lawrence, carting meters,	-	-	25 40
1565	Wood & Winsor, pipe, tees, couplings, elbows, &c.,	-	-	14 25
1566	Newport & Providence Lead Works, lead,	-	-	49 63
1567	Tuttle & Hobbs, horse keeping, &c.,	-	-	222 38
1568	Stone & Carpenter, architectural services,	-	-	1,150 00
1569	Union Water Meter Co., water meters and repairs,	-	-	298 75
1570	Fales, Jenks & Sons, stop valves, fire hydrants, &c.,	-	-	5,058 11
1571	Allen Waite, use of low gear,	-	-	14 50
1572	Valpey, Angell & Co., stationery,	-	-	5 37
1573	Paulding, Kemble & Co., on account for constructing pump- ing engine,	-	-	300 00
1574	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	-	-	1,251 37
1375	" " " on account for payments for labor at Pet- taconset,	-	-	500 00
1576	Charles H. Pierce, on account for payments for labor on pipes,	-	-	200 00
1577	Providence Gas Co., gas, &c.,	-	-	268 17
1578	B. F. Almy, one bale cop,	-	-	13 00
1579	Fuller Iron Works, valve boxes,	-	-	99 99
1580	Louis W. Clarke, constructing telegraph line to pipe yard, and furnishing instrument,	-	-	310 00
1581	Fales, Jenks & Sons, water meters,	-	-	756 54
1582	Olney Brothers, oil,	-	-	79 46
1583	Lobdell & Newmans, second hand lumber, &c., at Hope Station,	-	-	21 61
1584	Schooner Helen Mar, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	350 84
1585	Paulding, Kemble & Co., on account for constructing pump- ing engine,	-	-	1,800 00
1586	William H. Miller & Co., repairing tools, &c.,	-	-	48 17
1587	A. Waite, teaming, &c.,	-	-	22 55
1588	Providence & New York Steamship Co., freight of iron work, (charged to Architectural Iron Works,)	-	-	55 32
1589	Tuttle & Hobbs, one bay horse,	-	-	250 00
1590	Thomas Phillips & Co., tin lined lead pipe,	-	-	380 42
1591	G. & C. P. Hutchins, gas fixtures, oil, &c.,	-	-	92 94
1592	Dexter Gorton & Co., carpenter's work, &c.,	-	-	127 02
1593	" " " " " " lumber, labor, &c.,	-	-	31 00
1594	Paulding, Kemble & Co., on account for constructing pump- ing engine,	-	-	588 71
	Amount carried forward,	-	-	\$44,028 14

	Amount brought forward,	-	-	\$44,028 14
1595	Hopkins & Pomroy, coal, teaming, &c.,	-	-	276 57
1596	T. W. Rounds & Co., express harness,	-	-	65 00
1597	Holden & Lovett, horse-shoeing,	-	-	8 62
1598	Wood & Winsor, pipe, nipples, elbows, &c.,	-	-	28 43
1599	Barge John C. Wyman, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	898 85
1600	Schooner Fashion, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	155 23
1601	Rhode Island Locomotive Works, on account for furnishing boilers and stand pipe at Pettaconset,	-	-	18,000 00
1602	Henry Taylor, painting engine house, &c., at Pettaconset,	-	-	35 00
1603	Hammond, Angell & Co., printing,	-	-	96 61
1604	Barge A. A. Sumner, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	834 38
1605	Charles H. Pierce, on account for paying laborers,	-	-	500 00
1606	Bugbee & Hall, stationery,	-	-	104 66
1607	Henry R. Worthington, steam cylinder, for pumping engine, &c.,	-	-	1,333 26
1608	Schooner Edwin Post, freight of water pipes, (charged to Warren Foundry and Machine Co.,)	-	-	90 61
1609	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
1610	Otis F. Clapp, " " " "	-	-	208 33
1611	Howard A. Carson, " " " "	-	-	208 33
1612	William T. Schneider, " " " "	-	-	100 00
1613	C. Frank Allen, " " " "	-	-	40 00
1614	John E. Bowen, " " " "	-	-	100 00
1615	Daniel D. Waterman, " " " "	-	-	83 33
1616	Leprillete Sweet 2d., " " " "	-	-	83 33
1617	Edmund B. Weston, " " " "	-	-	83 33
1618	William M. Brown, Jr., " " " "	-	-	166 66
1619	William F. Janes, " " service pipe engineer,	-	-	83 33
1620	Augustus F. Nagle, " " mechanical engineer,	-	-	100 00
1621	Edwin P. Dawley, " " student, engineering department,	-	-	41 67
1622	Frank B. Ferris, " " " "	-	-	36 11
1623	Thomas L. Botts, " " " "	-	-	36 11
1624	William H. Olmstead, " " " "	-	-	34 72
1625	Daniel C. Stone, " " " "	-	-	41 67
1626	George B. Francis, " " " "	-	-	31 95
1627	Charles A. Harper, " " " "	-	-	25 00
1628	Alfred E. Martin, " " " "	-	-	33 33
1629	Charles F. Angell, " " " on trial, " "	-	-	10 00
1630	Walter F. Slade, " " clerk, engineering department,	-	-	83 33
1631	William Aplin, " " " "	-	-	83 33
1632	William H. Turner, salary as clerk, engineering department,	-	-	100 00
1633	Irving H. Potter, " " " "	-	-	58 50
1634	Andrew B. Purdy, " " superintendent of pipe work,	-	-	166 67
1635	William H. Patterson, " " inspector on pipe line,	-	-	92 00
1636	Foster S. Dennis, Jr., " " " "	-	-	52 00
1637	S. Horace Wheeler, " " " of service pipes,	-	-	125 00
1638	Henry M. Wilcox, " " assistant inspector of service pipes,	-	-	100 00
	Amount carried forward,	-	-	\$69,113 39

REPORT OF THE WATER COMMISSIONERS.

19

	Amount brought forward,	-	-	-	\$69,113 39
1630	Frederic A. Arnold,	"	"	inspector of water fixtures,	100 00
1640	Albert C. Winsor,	"	"	assistant inspector of water fixtures,	72 00
1641	Samuel R. Eccleston,	"	"	inspector of pipes,	130 00
1642	Edward A. Moran,	"	"	inspector of meters,	83 38
1643	John Lyons,	"	"	plumber, meter department,	65 00
1644	Simeon Noell,	"	"	inspector of engine work,	250 00
1645	Burrows Chase,	"	"	" at Hope Reservoir,	130 00
1646	Jeptha Baker,	"	"	keeper of Sockanosset Reservoir,	77 50
1647	Albert E. Angell,	"	"	temporary assistant, engineering department,	32 50
1648	George H. Slade,	"	"	" " " " " "	53 60
1649	Edward C. Reynolds,	"	"	" " " " " "	39 00
1650	Geo. W. Winsor, Jr.,	"	"	" " " " " "	39 00
1651	Henry G. Dennis,	"	"	superintendent of pipe yard,	125 00
1652	Richard M. Wood,	"	"	clerk at pipe yard,	66 67
1653	John Cuthbert,	"	"	pumping engineer, Pettaconset station,	100 00
1654	John Hamilton,	"	"	" " " " " "	85 00
1655	George F. Barney,	"	"	fireman, Pettaconset station,	60 00
1556	Patrick O'Rourke,	"	"	" " " " " "	70 00
1657	John Quinn,	"	"	pumping engineer, Hope station,	125 00
1658	Joseph F. Plant,	"	"	" " " " " "	90 00
1659	Thomas Miller,	"	"	fireman, Hope station,	65 00
1660	Michael Hamill,	"	"	" " " " " "	65 00
1661	William F. Tanner,	"	"	axeman,	49 00
1662	Henry Wright,	"	"	assistant to engineers, &c.,	17 44
1663	J. Wheaton Allen,	"	"	commissioners' clerk,	66 67
1664	Leonard N. Austin, Jr.,	"	"	" " " " " "	75 00
1665	Thomas C. Gushee,	"	"	" " " " " "	100 00
1666	Philip S. Chase,	"	"	" " " " " "	150 00
1667	Clinton D. Sellew,	"	"	secretary of water commissioners,	200 00
1668	John Purnell,	"	"	janitor, &c.,	56 41
1669	Samuel M. Gray,			engineering services, self and assistants,	424 07
1670	" " "			horse hire and sundries,	71 63
1671	" " "			paid by him for labor,	153 65
1672	Charles H. Pierce,	"	"	" " " " " "	1,222 95
1673	Charles H. Pierce,			paid by him for sundries,	58 06
1674	Charles P. Chapman,			on account for steps at Hope Reservoir,	1,300 00
1675	Lowell Wrench Co.,			wrenches,	10 00
1676	Gorham Manufacturing Co.,			badges,	40 00
1677	Freeburn & Crowell,			painting water gauge,	13 00
1678	W. P. Knickerbocker & Co.,			rope, (charged to Paulding, Kemble & Co.,)	17 83
1679	Boston Machine Co.,			tools,	9 25
1680	Abbott Lawrence,			expressage on meters,	23 15
1681	Newport and Providence Lead Works,			lead,	109 74
1682	Lawrence Waterbury & Co.,			jute bands,	24 80
	Amount carried forward,	-	-	-	\$75,229 64

	Amount brought forward,	-	-	\$75,229 64
1683	A. C. Eddy & Studleys, rubber coat, boots, &c.,	-	-	12 35
1684	American Screw Co., bolts,	-	-	10 24
1685	W. Coleman & Sons, derrick, blocks, &c.,	-	-	34 50
1686	George W. Smith, cutting granite, &c.,	-	-	114 51
1687	Providence and N. Y. Steamship Co., freight of iron work, &c.,	-	-	138 78
1688	Providence Steam Engine Co., labor of machinist, &c.,	-	-	361 91
1689	Daniel F. Burlingame, repairing tools,	-	-	20 87
1690	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	-	353 69
1691	Union Water Meter Co., water meter, &c.,	-	-	59 50
1692	Thomas J. Hill, rent of wharf,	-	-	875 00
1693	Architectural Iron Works, on account for roof of engine house at Pettaconset,	-	-	6,500 00
1694	Lobdell & Newmans, on account for constructing Hope Reser- voir,	-	-	2,250 00
1695	Fales, Jenks & Sons, water meters,	-	-	478 84
1696	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	-	-	2,604 92
1697	" " " on account for payments for labor at Pettaconset,	-	-	500 00
1698	George B. Inman, laying water pipes,	-	-	2,152 02
1699	" " " carting pipes,	-	-	54 93
1700	H. B. Bowen, hydrant bolts and pipe bolts,	-	-	296 97
1701	James Glass, on account for labor on roof of engine house at Pettaconset,	-	-	1,500 00
1702	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	1,300 00
1703	Warren Foundry and Machine Co., cast iron water pipes,	-	-	61,362 51
1704	Newport and Providence Lead Works, lead,	-	-	67 26
1705	Fuller Iron Works, valve boxes, valve covers and special cast- ings,	-	-	1,802 89
1706	A. Waite, teaming,	-	-	116 55
1707	Hopkins & Pomroy, coal, fire-brick, teaming, &c.,	-	-	1,457 59
1708	William H. Miller & Co., repairing tools, &c.,	-	-	77 57
1709	Wood & Winsor, pipe, tees, nipples, elbows, &c.,	-	-	98 78
1710	T. & W. Breck, rent of offices, &c.,	-	-	882 38
1711	Lobdell & Newmans, on account of reservations in bills for constructing Hope Reservoir,	-	-	15,000 00
1712	Dexter Gorton & Co., lumber, labor, &c.,	-	-	107 25
1713	John Mason, machine for marking tapes, &c.,	-	-	21 96
1714	Samuel M. Gray, on account for payments for labor at Petta- conset,	-	-	500 00
1715	City of Providence, sewer department, labor and expenses fill ing cisterns, &c.,	-	-	1,433 09
1716	Schooner Edwin Post, freight of water pipes, (charged to War- ren Foundry and Machine Co.,)	-	-	96 94
1717	Hopkins & Pomroy, teaming,	-	-	27 50
1718	Elisha S. Arnold, labor and materials building fence in Pawtuxet,	-	-	25 00
1719	John A. Moore, coal,	-	-	98 05
1720	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	300 00
1721	" " " " " " " " " " " "	-	-	350 00
	Amount carried forward,	-	-	\$178,678 99

REPORT OF THE WATER COMMISSIONERS.

21

	Amount brought forward,	-	-	\$178,678 99
1722	Moulton & Ingraham, stakes,	-	-	8 41
1723	Lobdell & Newmans, tools and labor,	-	-	23 05
1724	H. M. Poole, repairing transit, &c.,	-	-	9 95
1725	Akerman & Co., blank books, &c.,	-	-	44 10
1726	Providence Steam Engine Co., machinist's labor, &c.,	-	-	8 87
1727	Hammond, Angell & Co., printing,	-	-	73 64
1728	Providence Steam & Gas Pipe Co., injector, brass angle valves, &c.,	-	-	203 95
1729	L. H. Tillinghast & Co., tin pipe, &c.,	-	-	36 07
1730	Daniel F. Burlingame, repairing tools, &c.,	-	-	19 21
1731	Mason, Chapin & Co., oil, alcohol, &c.,	-	-	8 43
1732	J. Herbert Shedd, salary as chief engineer,	-	-	2,000 00
1733	Charles H. Pierce, " " assistant engineer,	-	-	250 00
1734	Otis F. Clapp, " " " " "	-	-	208 33
1735	Howard A. Carson, " " " " "	-	-	208 33
1736	William T. Schneider, " " " " "	-	-	100 00
1737	John E. Bowen, " " " " "	-	-	100 00
1738	Daniel D. Waterman, " " " " "	-	-	83 33
1739	Lepriele Sweet, 2d, " " " " "	-	-	83 33
1740	Edmund B. Weston, " " " " "	-	-	83 33
1741	William M. Brown, Jr., " " " " "	-	-	83 33
1742	Daniel C. Stone, " " " " "	-	-	83 33
1743	William F. Janes, " " service pipe engineer,	-	-	83 33
1744	Augustus F. Nagle, " " mechanical engineer,	-	-	100 00
1745	Edwin P. Dawley, " " student, engineering department,	-	-	41 67
1746	Frank B. Ferris, " " " " "	-	-	41 67
1747	Thomas L. Botts, " " " " "	-	-	41 67
1748	William H. Olmstead, " " " " "	-	-	41 67
1749	George B. Francis, " " " " "	-	-	33 33
1750	Charles A. Harper, " " " " "	-	-	25 00
1751	Alfred E. Martin, " " " " "	-	-	33 33
1752	Charles F. Angell, " " " on trial, " "	-	-	25 00
1753	Albert L. Bodwell, salary as student, engineering department,	-	-	7 53
1754	Walter F. Slade, " " service pipe clerk, " "	-	-	83 33
1755	William Applin, " " clerk, engineering department,	-	-	83 33
1756	William H. Turner, " " " " "	-	-	100 00
1757	Irving H. Potter, " " " " "	-	-	58 50
1758	Andrew B. Purdy, " " superintendent of pipe work,	-	-	166 67
1759	William H. Patterson, " " inspector on pipe line,	-	-	104 00
1760	Samuel E. Eccleston, " " " " " &c.,	-	-	77 00
1761	S. Horace Wheeler, " " " service pipes,	-	-	125 00
1762	Henry M. Wilcox, " " assistant inspector of service pipes,	-	-	100 00
1763	Frédéric A. Arnold, " " inspector of water fixtures,	-	-	100 00
1764	Albert C. Winsor, " " assistant inspector of water fixtures,	-	-	78 00
1765	Edward A. Moran, " " inspector of meters,	-	-	83 33
1766	John Lyons, " " plumber, meter department,	-	-	65 00
1767	John Higgins, " " " " "	-	-	12 00
1768	Simeon Noell, " " inspector of engine work,	-	-	250 00
1769	Burrows Chace, " " " at Hope Reservoir,	-	-	130 00
1770	George W. Mitchell, " " " " "	-	-	51 94
	Amount carried forward,	-	-	\$184,540 29

	Amount brought forward,	-	-	\$184,540 29
1771	Alexis C. Miller,	"	"	108 50
1772	Jeptha Baker,	"	"	75 00
1773	Albert E. Angell,	"	"	45 50
1774	George H. Slade,	"	"	48 00
1775	Edward C. Reynolds,	"	"	39 00
1776	George W. Winsor, Jr.,	"	"	39 00
1777	Henry G. Dennis,	"	"	125 00
1778	Richard M. Wood,	"	"	83 33
1779	John Cuthbert,	"	"	100 00
1780	John Hamilton,	"	"	85 00
1781	George F. Barney,	"	"	60 00
1782	Patrick O'Rourke,	"	"	70 00
1783	John Quinn,	"	"	125 00
1784	Joseph F. Plant,	"	"	90 00
1785	Thomas Miller,	"	"	65 00
1786	Michael Hamill,	"	"	65 00
1787	William F. Tanner,	"	"	48 00
1788	William H. Kelly,	testing cement,	-	29 25
1789	Warren S. Burnap,	"	"	27 00
1790	J. Wheaton Allen,	salary as commissioners' clerk,	-	47 31
1791	Leonard N. Austin, Jr.,	"	"	75 00
1792	Thomas C. Gnshee,	"	"	100 00
1793	Philip S. Chase,	"	"	150 00
1794	Clinton D. Sellew,	salary as secretary of water commissioners,	-	200 00
1795	Joseph J. Cooke,	salary as water commissioner,	-	500 00
1796	Charles E. Carpenter,	"	"	500 00
1797	William Corliss,	"	"	500 00
1798	John Purnell,	"	"	55 73
1799	Charles H. Pierce,	paid by him for sundries,	-	96 21
1800	"	"	"	1,943 01
1801	Samuel M. Gray,	horse hire and sundries,	-	77 75
1802	"	paid by him for labor,	-	118 39
1803	"	engineering services, self and assistants,	-	326 91
1804	Olney Brothers,	oil,	-	11 21
1805	Abbott Lawrence,	expressage on meters,	-	21 00
1806	Providence and N. Y. Steamship Co.,	freight of iron work and lead pipe,	-	25 12
1807	Manchester Bros.,	photographs,	-	44 00
1808	Shaw & Rogers Lead Co.,	lead pipe,	-	1,398 83
				<u>\$192,068 39</u>

RECEIVED FROM MARCH 1, 1875, TO MAY 31, 1875, INCLUSIVE,
AND PAID TO THE CITY TREASURER.

1875.

March 4.	Of John Smurthest, for three months' rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to June 1, 1875,	-	-	56 25
6.	Of City of Providence, for sewer expenses,	-	-	1,447 99
12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to March 12, 1875,	-	-	14 58
16.	Of City of Providence, for materials for public bridges,	-	-	176 63
26.	Of City of Providence, for sewer expenses,	-	-	30,303 00
April 2.	Of Henry L. Johnson, for three month's rent of land in Pawtuxet, to April 1, 1875,	-	-	21 75
6.	Of Stafford & Co., for rent of Pawtuxet Mill, to January 21, 1875,	-	-	46 03
	Of Peleg P. Cranston, for three months' rent of Randall estate, so called, in Pawtuxet, to April 1, 1875,	-	-	50 00
8.	Of Ellery Millard, for labor and materials,	-	-	2 13
	Of New London Water Works, for cast iron water pipe,	-	-	15 57
12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to April 12, 1875,	-	-	14 58
May 1.	Of New London Water Works, for special castings,	-	-	1 82
7.	Of Henry G. Dennis, for sundries,	-	-	11 20
	Of Fuller Iron Works, for scrap iron,	-	-	392 00
8.	Of George Beverly, for grated inlet cover,	-	-	8 26
12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to May 12, 1875,	-	-	14 58
14.	Of Fuller Iron Works, for scrap iron,	-	-	804 09
26.	Of Alfred Mundell, for labor and materials,	-	-	4 20
28.	Of City of Providence, for sewer expenses,	-	-	2,710 79
31.	For setting and repairing meters during the present quarter,	-	-	1,032 10
	For laying service pipes during the present quarter,	-	-	191 45
	For couplings for street sprinklers, during the present quarter,	-	-	4 60
	For meters during the present quarter,	-	-	2,529 30
	For penalties during the present quarter,	-	-	50 00
	For water during the present quarter,	-	-	17,445 66
				<hr/>
				\$57,348 56

Amount brought forward,	\$613,331 38
Fences,	2,075 38
Rent of wharves and pipe yards,	6,637 30
Stop valves,	66,634 79
Linking curved pipes,	232 75
Store house and work shop,	1,207 38
Tools,	10,721 40
Labor on pipes,	17,451 47
Cast iron water pipes,	1,328,119 90
Special castings,	96,794 76
Lumber,	1,576 30
Fire hydrants,	96,940 46
Sockanosset Hill cross road,	3,855 38
Telegraph lines,	2,218 14
Dwelling houses at Pettaconset,	9,799 07
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,557 92
Real Estate in Warwick,	11,686 83
Water privileges, mill and other real estate in Pawtuxet,	45,774 65
Pochasset bridge,	5,559 82
Wharf salaries,	9,499 49
Temporary engine house at Pettaconset,	9,761 28
Roads, slopes, etc., at Pettaconset,	12,041 55
Engine house at Pettaconset,	295,846 56
Natural filter basin,	41,518 35
Removing loam,	462 95
Iron screw piles,	3,766 46
Hydrant bolts,	1,940 78
Pipe bolts,	1,800 53
Photographs,	328 25
Hydrant heads,	7,443 00
Taps and stops,	16,045 56
Valve covers,	8,385 69
Service pipe,	43,734 51
Hydrant boxes,	27,221 67
Setting fire hydrants,	10,242 24
Check valves,	1,412 48
Valve boxes,	30,050 25
Air-cocks, boxes, covers and setting,	524 55
Setting blow-offs,	331 49
Pettaconset pumping station for land,	25,901 07
Lobdell & Newmans,	153,650 00
A. & W. Sprague Manufacturing Co.,	2,500 00
Paulding, Kemble & Co.,	96,996 96
Sewer department, salaries and office expenses,	710 24
Thomas Phillips & Co.,	1,071 94
Providence Concrete Co.,	200 00
Architectural Iron Works,	27,905 27
Amount carried forward,	\$3,162,303 53

Amount brought forward,	\$3,162,303 53
James Glass,	1,563 36
Providence Steam Engine Co.,	11,000 00
Rhode Island Locomotive Works,	18,013 06
Charles P. Chapman,	1,300 00
Samuel M. Gray,	1,000 00
Fales, Jenks & Sons,	55
Akron Sewer Pipe Co.,	20 62
O. O. Bowman & Co.,	8 00
George C Hicks & Co.,	2 80
City Treasurer,	213,849 93
City Treasurer, for water payments,	384,663 94
Testing pipe iron,	443 50
Iron drain pipes and gate,	224 21
Carting pipes,	38,573 03
Counsel fees,	5,500 00
Inspection of pipes,	10,562,23
Testing bolts and composition castings,	34 25
Laying water pipes,	389,878 89
Laying service pipes,	29,326 42
Laying suction pipes, etc.,	85 00
Drainage pump and engine,	5,110 72
Hydrants for street sprinklers,	2,536 73
Inspection of pipe laying,	29,523 11
Temporary boarding house at Pettaconset,	1,427 84
Public drinking fountains and troughs,	2,352 77
Warwick test pits,	1,313 40
Engine house at Pettaconset for drain,	2,133 37
Water meters set belonging to the city,	1,258 72
Worthington pumping engine,	36,523 33
Hope pumping engine,	63,104 67
Cornish pumping engine,	12,563 62
Keeper's house at Sockanosset reservoir,	7,088 84
Pipe in river embankment at Pettaconset,	4,067 82
Inspection of engine work,	2,187 08
Alterations at Hope pumping station for second engine,	151 80
	<hr/> \$4,438,666 13

ENGINEERING DEPARTMENT :—

For Instruments,	\$3,217 92
Tools,	719 82
Furniture, stoves, gas fixtures, etc.,	2,817 76
Draughting,	3,523 52
Labor,	8,616 44
Horse and wagon account,	2,528 31
Horse keeping, shoeing, etc.,	2,105 25
Horse hire,	4,751 65
Rent of offices,	6,498 52
Amounts carried forward,	<hr/> \$34,779 19 \$4,438,666 13

Amounts brought forward,	\$34,779 19	\$4,438,695 13
Fuel and lights,	701 48	
Janitor of rooms,	1,196 37	
Experimental filter,	91 08	
Books, stationery, etc.,	3,349 56	
Sundries,	3,218 88	
Test wells,	1,579 40	
Consultations,	827 08	
Office building at Pettaconset,	567 60	
“ “ “ Sockanoset reservoir,	563 22	
Stakes and strips,	1,271 32	
Printing,	562 03	
Maps,	86 67	
Service pipe experiments,	296 04	
Temporary assistance,	9,322 11	
Salaries,	108,747 36	
		\$167,159 39

MAINTENANCE :—

Hope pumping station, for coal and wood,	4,899 37	
“ “ “ “ engineer,	2,437 56	
“ “ “ “ firemen,	1,474 65	
“ “ “ “ lights,	1,401 42	
“ “ “ “ sundries,	483 56	
“ “ “ “ night and Sunday watch,	41 23	
Pettaconset pumping station, for coal and wood,	22,307 70	
“ “ “ “ engineer,	5,945 84	
“ “ “ “ firemen,	5,477 03	
“ “ “ “ labor on fuel,	1,866 79	
“ “ “ “ sundries,	4,200 23	
“ “ “ “ night and Sunday watch,	2,343 53	
Sockanoset reservoir, for watch,	3,099 25	
Sockanoset reservoir, for sundries,	4,634 15	
Hope reservoir for watch,	130 00	
Ascertaining and removing nuisances on Pawtuxet river,	479 46	
Worthington pumping engine,	7,540 26	
Hope pumping engine,	4 66	
Miller boilers at Pettaconset,	130 91	
Change of grades,	1,623 38	
Inspection of water fixtures,	4,087 38	
Repairs on pipe line,	7,143 73	
Meter testing room,	268 98	
Setting, inspection and repair of meters,	589 97	
Commissioners' salaries,	6,833 36	
Secretary's salary,	2,255 59	
Clerks' salaries,	4,911 69	
Rent of offices,	1,120 82	
Fuel and lights,	55 36	

Amounts carried forward, \$97,792 86 \$4,605,854 52

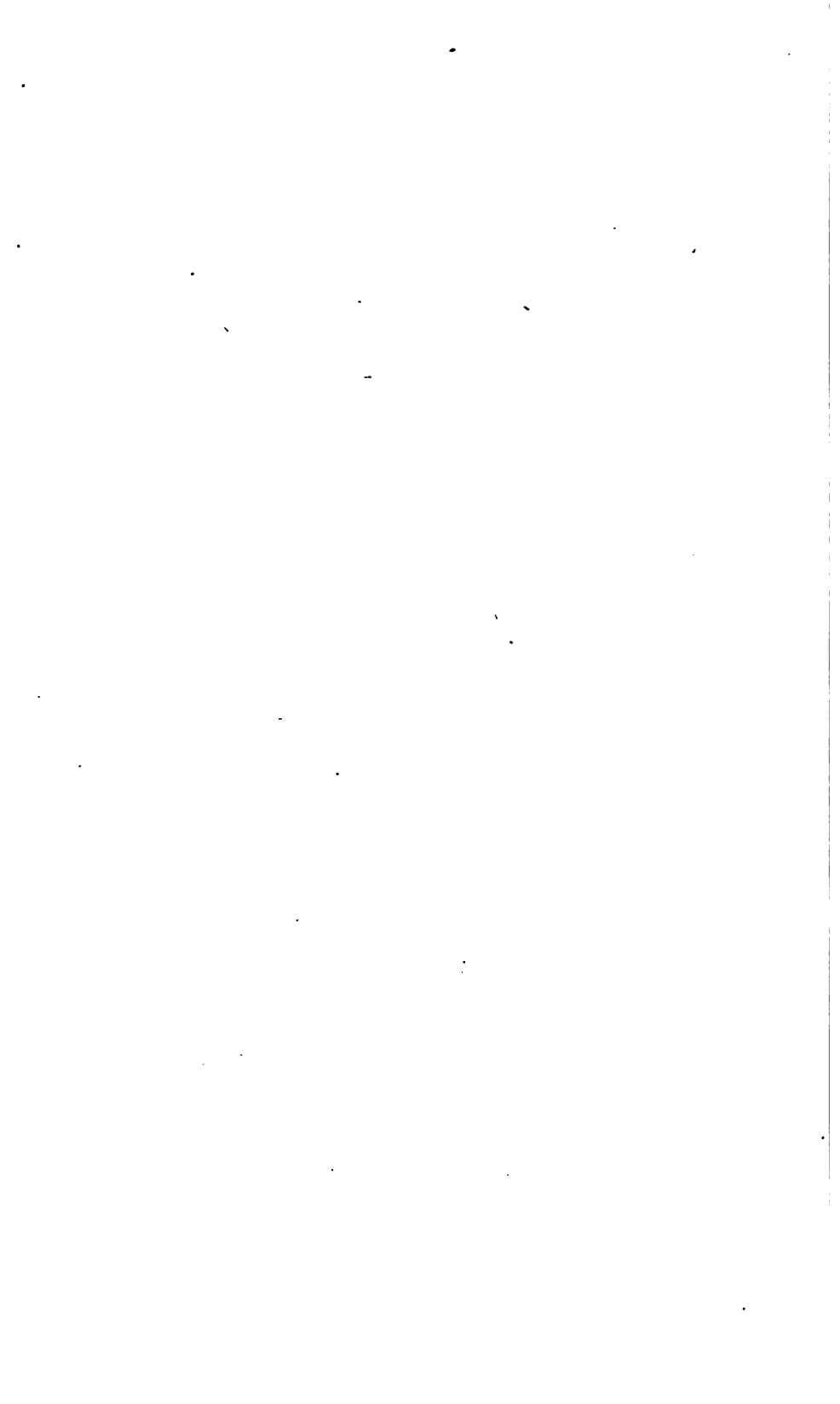
Amounts brought forward,			\$97,792 86	\$4,605,854 52
Janitor of rooms,	.	.	225	33
Books, stationery, etc.,	.	.	583	15
Printing,	.	.	657	37
Advertising,	.	.	83	41
Sundries,	.	.	326	65
Counsel fees,	.	.	1,000	00
Thawing pipes, gates, etc.,	.	.	1,151	41
Supplying water takers, by reason of frost,	.	.	1,280	38
Engineering department, for rent of offices,	.	.	2,347	64
"	"	" fuel and lights, .	128	43
"	"	" janitor of rooms,	462	10
"	"	" books, stationery, etc.,	128	55
"	"	" printing,	158	81
"	"	" salaries,	14,195	99
"	"	" sundries,	13	24
			<hr/> 120,535 32	
			<hr/> \$4,726,389 84	

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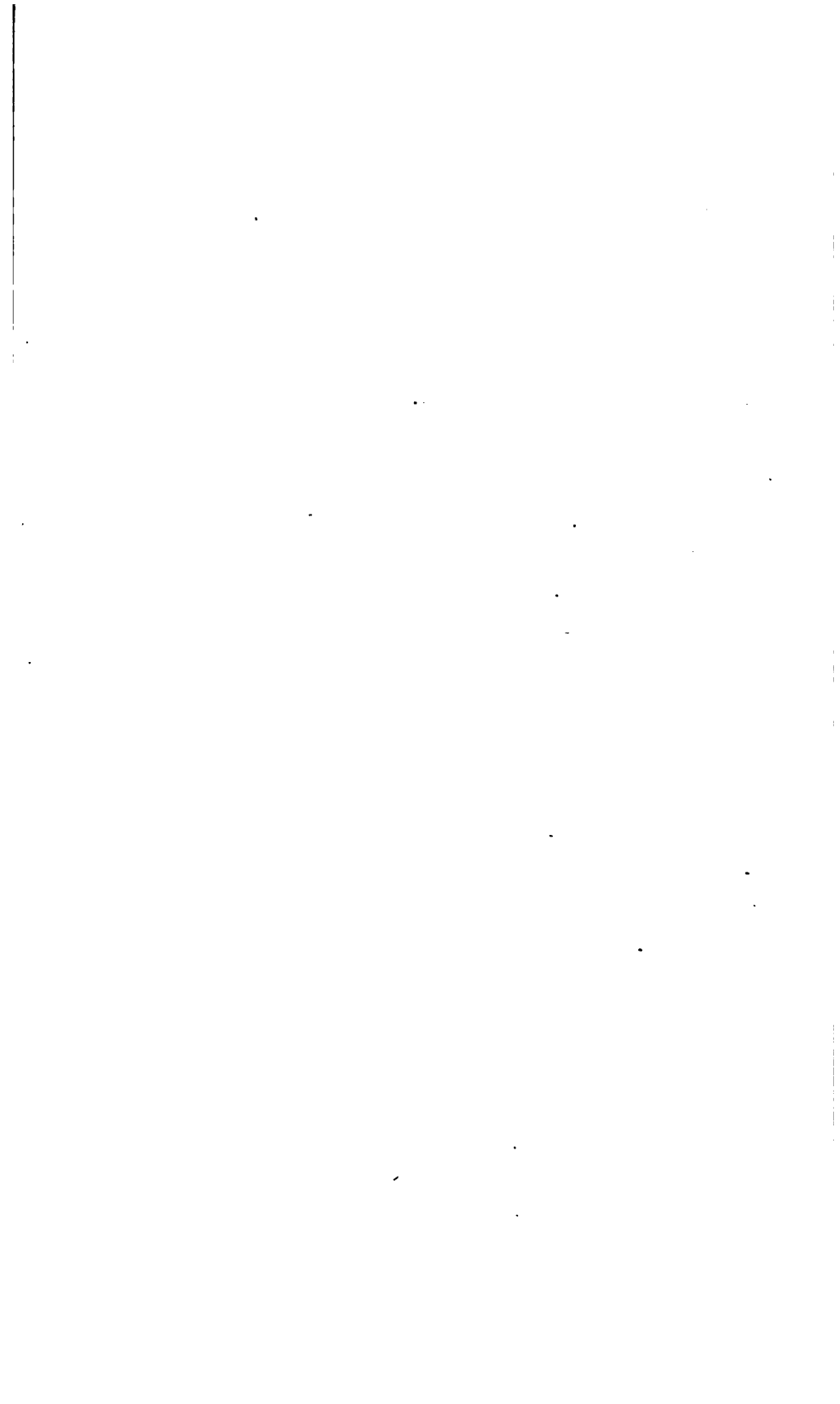
Warren Foundry and Machine Co.,	.	.	\$5,468	06
G. B. and W. F. Inman,	.	.	12,994	26
Boston Hydrants,	.	.	29	07
Water Meters,	.	.	2,298	08
Penalties,	.	.	318	00
Water,	.	.	384,663	94
W. A. Burdick, Agent,	.	.	550	00
Approved bills,	.	.	4,330,078	43
			<hr/> \$4,726,389 84	

**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO JUNE 1, 1875.**

MONTHS.	1872	1873.	1874.	1875.
January.....	.....	\$40,699 09	\$69,356 70	\$92,102 10
February.....	\$796 06	4,314 80	3,678 96	4,674 19
March.....	6,671 82	6,669 73	9,221 19	4,777 42
April.....	1,668 59	2,810 07	4,936 98	10,093 32
May.....	2,063 41	1,766 28	2,338 59	2,574 92
June.....	8,634 89	8,228 92	2,583 35	... ..
July.....	3,488 27	6,214 24	13,756 51	.....
August.....	1,818 14	1,441 09	1,953 37	.....
September.....	4,933 44	7,550 64	5,541 34	.....
October.....	5,079 08	8,745 53	9,097 95	.....
November.....	477 04	872 83	1,511 03	.....
December.....	5,372 77	8,072 87	8,076 42	.... ..
	\$41,003 51	\$97,386 09	\$182,052 30	\$114,221 95







1875.

CITY DOCUMENT.

No. 36.

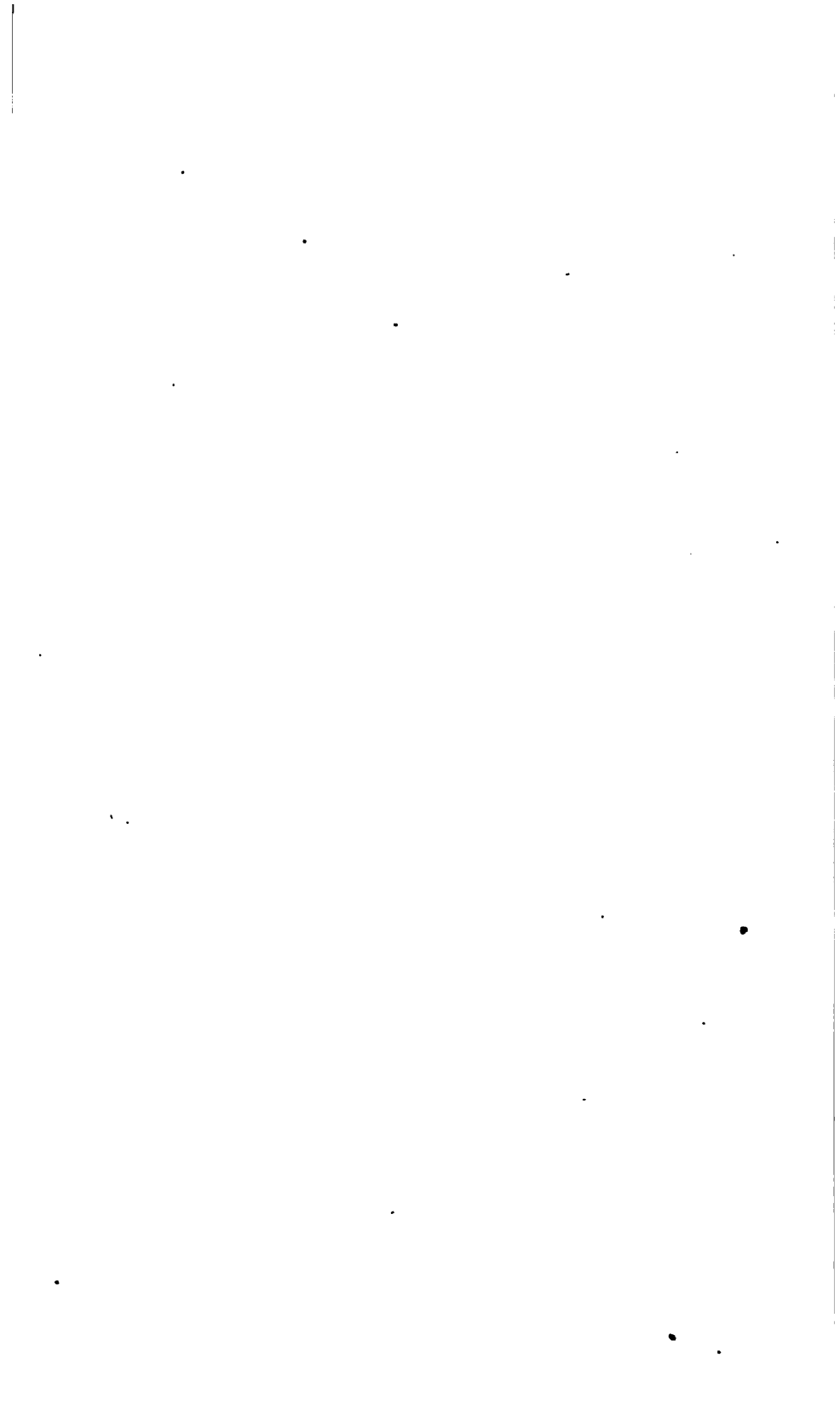
SIXTH QUARTERLY REPORT
OF THE BOARD OF
WATER COMMISSIONERS
OF THE
CITY OF PROVIDENCE.

[Elected February 27, 1874.]

SEPTEMBER 1, 1875.



PROVIDENCE:
ANGELL, BURLINGAME & CO., PRINTERS TO THE CITY.
1875.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main Street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main Street.



REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
Providence, R. I., September 1, 1875. }

TO THE HONORABLE THE CITY COUNCIL:—

The undersigned Water Commissioners, elected February 27th, 1874, under "An Ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their Sixth Quarterly Report:

Edwin P. Dawley has been appointed Assistant Engineer, with a salary of one thousand dollars per annum, dating from June 25th, 1875. Mr. Dawley had served for three years as a student in the engineering department.

Jesse W. Coleman has entered upon the duties of Commissioners' Clerk, on trial, with a salary of six hundred dollars per annum.

The salary of Howard A. Carson, Assistant Engineer, has been increased to three thousand dollars per annum, dating from June 1, 1875.

The salary of Edward A. Moran, Inspector of Water Meters, has been increased to twelve hundred dollars per annum, dating from July 1, 1875.

The salary of John Cuthbert, Pumping Engineer at Pettaconset, has been increased to twelve hundred and fifty dollars per annum, dating from September 1, 1875.

An offer of Dexter Gorton & Co., to furnish certain materials and perform the carpenters' work, for the Gate House at Hope Reservoir, as per plans, for the sum of one hundred and seventy-five dollars, (\$175.00,) has been accepted.

The house then standing on Hope Reservoir lands, near the engine house, was sold at auction, August 12th, for three hundred and ten dollars, (\$310.00), to be removed.

A certain lot or parcel of land situate in the village of Pawtuxet, in the town of Cranston, being a portion of the property formerly leased to Stafford & Co., has been leased to the Union Railroad Company, at the rate of twenty-five dollars per annum, payable semi-annually; the lease to terminate on three months notice from either party.

Hope Reservoir is completed, and is now filling with water.

Pettaconset Engine House, the Cornish engine, and the second engine for Hope Pumping Station, are all nearly completed.

The annexation of the territory now the Tenth Ward has added largely to the High Service District, more than one half of the area of the ward being of an altitude too great to be efficiently supplied by gravity from Sockanosset and Hope Reservoirs. The area of High Service now supplied with water by the objectionable system of pumping directly into the pipes, only to be justified by peculiar circumstances, is very limited. The nearly four-fold increase of the area of this service renders it highly desirable that a reservoir of sufficient height should, at no distant day, be constructed. Such a reservoir would also be of great advantage, if, as is hoped, an arrangement should be made to supply the town of Pawtucket with water. The Commissioners have consequently purchased a location suitable for a reservoir on Olney's Hill in the town of Lincoln, at an elevation for the water surface of about two hundred and ninety feet above mean high water.

A deed of about 15½ acres has been obtained in consideration of the sum of two thousand and forty-three $\frac{1}{100}$ (2,043.09) dollars, and a deed has been made to the city of six acres adjoining for the sum of nine hundred (900) dollars. The last named deed has just been received, and the consideration has not yet been paid.

The daily consumption of water, including waste and leakage, during the last quarter, was about 2,500,000 gallons.

Plumbers' licenses have been issued as follows:

William G. Heath,	William B. Thompson,
William T. Shanley,	William F. Wright.

The whole number of plumbers' licenses issued is sixty-one. Suspended, one. Revoked, one. Remaining in force, fifty-nine.

The following statement shows the length of pipes laid during the last quarter; the sizes of the pipes; where laid; and the totals since the commencement of the work:

30 INCH.

In Waterman street,	250 feet.
Including 2 reducers.	
Previously,	58,826 feet.
Total,	<u>59,076 feet.</u>

24 INCH.

In Prospect and Waterman streets,	882 feet.
Including 2 cut pipes and four curved pipes.	
Previously,	23,060 feet.
Total,	<u>23,942 feet.</u>

16 INCH.

In Broad Street,	1,636 feet.
Including 4 cut pipes, 14 branches and 1 gate.	
Previously,	21,566 feet.
Total,	<u>23,202 feet.</u>

12 INCH.

In North Main street, Atwell's and Manton avenues,	4,794 feet.
Including 10 cut pipes, 3 curved pipes, 25 branches and 3 gates.	
Previously,	27,237 feet.
Total,	<u>32,031 feet.</u>

10 INCH.

In Gaspee street and Nash lane,	1,255 feet.
Including 6 cut pipes, 1 curved pipe, 10 branches and 1 gate.	
Previously,	8,823 feet.
Total,	<u>10,078 feet.</u>

8 INCH.

In Holden, Hope, Julian and Promenade streets,	1,834 feet.
Including 9 cut pipes, 5 curved pipes, 6 branches and 3 gates.	
Previously,	71,781 feet.
Total,	<u>73,615 feet.</u>

6 INCH.

In Abbott, Amherst, Bernon, Borden, Briggs,
Brownell, Carroll, Candace, Cedar, Common,
Crary, Crimea, Daboll, Dale, Forest, Francis,
Gallup, Hardenburg, Hewett, Hope, How-
land, Ives, Ivy, Langley, Lime, Manning,
Moore, Newton, Olive, Pettis, Piedmont,
Plane, Pleasant, Potter, Printery, Putnam,
Redwing, Republican, Sherburne, Shove,
Steuben, Stokes, Swan, Temple, Updike,
Warren, West Park, Williams and Winsor
streets; in Maiden and Nash lanes, and in

East, Potter's and Reservoir avenues, . 21,251 feet.
Including 100 cut pipes, 33 curved pipes, 41
branches and 54 gates.

Previously, 365,680 feet.

Total, 386,931 feet.

Total of all sizes during the last quarter, . . 31,902 feet.
or 6.⁰⁴²/₁₀₀₀ miles.

Previously, including 20 and 36 inch, of which
none have been laid during the last quarter, 593,573 feet.

• Total, 625,475 feet.
or 118.⁴⁸¹/₁₀₀₀ miles.

Forty-eight fire-hydrants have been set during the last
quarter, one in each of the following locations :—

Amherst street, north-west corner of Steuben street.

Atwell's avenue, north-west corner of Steuben street.

“ “ north side, about 250 feet west of Valley street.

Briggs street, north side, about 170 feet east of Ocean street.

Broad “ south-east corner of Dexter avenue.

“ “ east side, in line with north side of Earley street.

“ “ east side, in line with south side of street first
south of Gallatin street.

“ “ south-east corner of Prairie avenue.

“ “ north-east corner of Richardson street.

Cabot “ east side, half-way between Angell and Meeting
streets.

Calender street, east side, at north end of Barstow's new
building.

Carroll “ east side, about half-way between Orms and
Common streets.

Cedar “ north side, opposite east line of Bond street.

Daboll “ south side, about 560 feet east of Greenwich
street.

Dale “ north-west corner of Cedar street.

Forest street, north-west corner of Ivy street.

Francis " south-west side, about 135 feet north-west of Gaspee street.

Gaspee " south-east side, about 175 feet south-west of Francis street.

" " south-east side, about 200 feet north-east of Francis street.

Gesler street, south side, about 150 feet west of Asia street.

Hardenburg street, south-east corner of Bailey street.

" " east side, half-way between Chalkstone avenue and Bailey street.

Holden street, north-east corner of Jewett street.

Langley " north side, about 415 feet west of Hospital street.

" " north side, about 180 feet east of Plane street.

Maiden lane, west side, about 500 feet south of Potter's avenue.

Moore street, south side, about 240 feet west of Broad street.

" " south side, about 280 feet east of Greenwich street.

Mountain street, north side, half-way between Newton and Anthony streets.

North Main street, south-east corner of Abbott's lane.

" " " south-east corner of Evergreen street.

" " " north-east corner of Grand View street.

Olive street, south side, about 160 feet east of Brown street.

Pettis " east side, about half-way between Shove and Polk streets.

Piedmont street, north-west corner of Adams street.

Plane " south-west corner of Gallup street.

Pleasant " north-west corner of East avenue.

Potter " south side, 160 feet east of Broad street.

Potter's avenue, south-east corner of Plane street.

Preston street, north side, about 215 feet east of Ives street.

Printery " east side, about half-way between Randall street and Nash lane.

Reservoir avenue, south-west corner of Crescent street.

Sherburne street, north side, half-way between Eddy and Plane streets.

Spruce street, north side, 174 feet west of McAvoy street.

Swan " north-east corner of Plane street.

 " " north side, about 350 feet west of Plane street.

Updike street, south-east corner of Moore street.

Williams street, north side, half-way between Ives and Governor streets.

The total number of fire hydrants is now eight hundred and eighty.

Two hydrants have also been set for use in filling sprinkling carts, etc. The number of such hydrants is now twenty-seven.

The height of water in Sockanosset Reservoir at 7 o'clock this morning was 177.55. High water in the reservoir is 180.50 (above high tide in Providence river).

Two Ball & Fitts' water meters, made by the Union Water Meter Co., and one hundred and forty-four water meters, made by Fales, Jenks & Sons, have been put in at the expense of water takers, since the date of the last report. Two five-eighths inch Ball & Fitts' water meters, seriously injured by frost, have been changed, at the expense of water takers, for meters made by Fales, Jenks & Sons; and one two inch Ball & Fitts' water meter has been replaced by a three inch meter of the same make. The use of one Ball & Fitts' and one Worthington meter has been discontinued, and the parties now pay schedule rates.

There are now twenty-one hundred and fifty-eight water meters in use, viz. :—

KIND.	SIZES.							TOTALS.
	$\frac{5}{8}$ inch.	$\frac{3}{4}$ inch.	1 inch.	$1\frac{1}{2}$ inch.	2 inch.	3 inch.	4 inch.	
Ball & Fitts.	1,242	225	82	45	8	1.	1	1,604
Worthington.	169	....	....	....	...	..	1	170
Fales, Jenks & Sons.....	....	368	16	....	....		....	384
	1,411	593	98	45	8	1	2	2,158

The total number of applications for a supply of water, is sixty-four hundred and seventy-six.

The number of new service stops opened during the last quarter, is three hundred and ninety-six.

The number of service stops opened to date, is fifty-five hundred and seventeen.

Five stops have been closed during the last quarter, for non-payment of bills, one of which has been re-opened on payment of bill, and a penalty of two dollars. Ten stops previously closed for non-payment, have been re-opened during the last quarter; in nine cases the bills and a penalty of two dollars, were paid, and one for reason of attendant circumstances was re-opened on payment of the bill, without penalty. Thirty-two stops, closed for non-payment, remain unopened.

Water is now supplied for the following uses :

3 armories; 8 bakeries; 36 banks; 85 bar-rooms; 2 bath houses; 1 bath house—Turkish; 115 boarding houses; 8 bottling establishments; 40 building purposes; 1 burying ground; 1 car house; 3 carriage depositories; 3 chasers; 1 Christian Union; 27 churches; 1 city barn; 2 city bridges; 1 city building; 13 city drinking fountains; 23 city drinking troughs; 880 city fire hydrants; 9 city fire steamer stations;

3 city hose houses; 8 club rooms; 14 coal yards; 1 college; 1 colored shelter; 1 conservatory of music; 3 convents; 1 court house; 1 decorator; 1 Dexter Asylum; 2285 dwellings of one family; 2155 dwellings of two families; 202 dwellings of three families; 243 dwellings of four families; 29 dwellings of five families; 45 dwellings of six families; 4 dwellings of seven families; 6 dwellings of eight families; 1 dwelling of nine families; 1 dwelling of twelve families; 2 dye houses; 5 elevators; 1 engine turner; 4 engravers; 1 express carriage house; 53 fire supplies—private; 57 fountains—private; 1 fountain—public; 1 furrier; 2933 garden and street hydrants; 4 gas holders; 6 gold and silver platers; 6 gold and silver refiners; 2 grain elevators; 35 green houses; 19 halls; 1 Home for Aged Women; 2 hospitals; 16 hotels; 1 infirmary; 4 laundries; 1 library; 1 lithographer; 18 lodging houses; 2 lumber dealers. *Manufacturing establishments*,—2 belt and picker; 3 blank book; 2 bleacheries; 1 bologna sausage; 1 bonnet bleachery; 1 boot and shoe; 1 box; 1 braiding works; 2 brass foundries; 2 breweries; 1 brush; 2 butt; 1 butter; 9 carriages; 2 cement pipe; 1 chain; 6 cigar; 1 cigar box; 18 cloak and dress; 1 coffin; 8 confectionery; 1 corset; 3 colorers of jewelry; 8 cotton; 1 crocus; 3 die sinkers; 2 dye wood; 1 emery wheel; 1 enameler of jewelry; 1 eyelet; 3 file; 8 furniture; 1 gas; 1 gas burner; 4 gas fixtures; 1 geer; 3 hat; 4 harness; 1 horse shoe; 2 ice cream and soda water; 1 iron company; 1 iron fence; 10 iron foundries; 1 Japan switch; 1 jewelers' cards; 90 jewelry; 4 lapidaries; 26 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1 organ; 1 paper box; 1 paper collar; 3 paper cop tube; 1 pattern; 3 patent medicine; 1 pencil case; 3 picture frame; 1 paint works; 2 pumps; 2 reed; 1 rubber goods; 1 rubber tubing; 4 sash and blind; 2 screw; 1 sheet iron; 2 shirt; 3 silverware; 6 soap; 1 spiral spring; 1 starch; 1 steam boiler; 2 steam engine; 1 stencil plate; 1 stove; 2 tanners; 2 thread; 1 tin ware; 4 tool; 3 top roll; 6 woolen goods; 1 yeast. *Markets*,—44 fish; 107 meat. *Mills*,—2 drug and grain; 3 flour and grain;

1 paint; 9 planing. 5 marble works; 1 nickel plater; 1 opera house; 2 orphan asylums; 5 organs; 5 oyster houses; 549 offices; 11 photographers; 10 printing establishments; 7 plaster and stucco workers; 10 plumbers; 9 provision curers and packers; 6 police stations; 7 railroads; 1 reading room; 42 restaurants; 1 roofer. *Saloons*,—4 billiard; 3 bowling; 6 ice cream; 21 lager beer; 10 oyster. *Schools*,—1 boarding; 12 private; 36 public; 1 reform. *Shops*,—41 barber; 10 blacksmith; 1 carpenter; 3 cooper; 1 gunsmith; 1 junk; 15 paint; 5 shoemaker; 22 tailor; 5 tinman. *Stables*,—6 hack; 45 livery; 278 private; 4 sale; 69 work. 13 steamboats; 13 steamships; 5 steam and gas pipe fitters. *Stores*,—1 agricultural implement; 44 apothecary; 1 auction; 4 book; 30 boot and shoe; 2 carpet; 2 carriage trimmings; 11 cigars; 24 clothing; 9 confectionery; 3 drug; 38 dry goods; 80 fancy goods; 1 florist; 10 flour and grain; 12 fruit; 1 fish; 12 furniture; 12 gent's furnishing goods; 142 grocery, retail; 15 grocery, wholesale; 10 hardware; 2 hide and leather; 2 hoop skirt; 11 house furnishing goods; 4 house paper; 3 iron and steel; 11 jewelry; 13 liquor; 1 lime and brick; 2 manufacturers' supplies; 29 millinery; 9 newspaper; 4 oil and paint; 2 paper and paper stock; 1 piano forte; 7 produce, wholesale; 3 sewing machine; 4 stationery; 2 stove; 4 tea; 2 trunk; 1 toy; 1 umbrella; 2 wooden ware; 1 wool; 2 woolen goods. 1 State prison; 1 store house; 1 theatre; 4 undertakers; 1 United States custom house building; 2 upholsterers; 2 water boats; 1 wheelwright; 1 wood turner; 4 wood yards; 28 not classed.

The amount of expenditures, during the last		
quarter, is	- - - -	\$154,701 41
The total amount of expenditures, is	-	4,484,779 84
The total amount of appropriations, is		4,700,000 00
The unexpended balance, is	- -	215,220 16
The cost of construction to date, (deducting		
from the whole amount of approved bills the		
cost of maintenance, the amounts received for		

labor and materials, &c. ; meters ; from sewer department for office expenses ; estimated amount due from sewer department for engineering, &c. ; and adding amount of reservations due to contractors), is - - - - 4,104,033 33

The cost of maintenance to date, is - 133,845 26

The amount received during the last quarter, all of which has been paid to the City Treasurer, is

For water supplies,	-	\$21,177 88	
“ water meters,	-	3,799 00	
“ penalties,	-	22 00	
“ sundries,	-	6,029 43	
			31,028 31

The amount received for water in 1872, was 41,003 51

The amount received for water in 1873, was 97,386 09

The amount received for water in 1874, was 132,052 39

The amount received for water during the first eight months of 1875, was - - 135,399 83

The total amount received for water to date, is 405,841 82

The amount of all receipts to date, is - 629,542 18

A schedule of bills approved during the last quarter, and of receipts during the same time, a trial balance of ledger, August 31, 1875, and a schedule of receipts for water by months, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers will be presented.

JOSEPH J. COOKE,	} <i>Board of Water Commissioners.</i>
CHAS. E. CARPENTER,	
WILLIAM CORLISS,	

**SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER
COMMISSIONERS, FROM JUNE 1, 1875, TO AUGUST 31, 1875,
INCLUSIVE.**

1809	Schooner John Brooks, freight of water pipes (charged to Warren Foundry and Machine Co.),	-	-	\$131 82
1810	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	500 00
1811	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	-	-	2,544 81
1812	" " " on account for payments for labor at Pettaconset,	-	-	500 00
1813	Providence Steam Engine Co., on account for constructing pumping engine,	-	-	11,000 00
1814	Lobdell & Newmans, on account for constructing Hope Reservoir,	-	-	9,175 00
1815	Foster S. Dennis, trenching and back-filling, and laying water pipes,	-	-	1,800 00
1816	Foster S. Dennis, carting pipes,	-	-	290 98
1817	Warren Foundry and Machine Co., cast iron water pipes,	-	-	2,266 11
1818	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	1,500 00
1819	G. B. & W. F. Inman, balance of reservation for laying water pipes in 1874,	-	-	2,944 93
1820	Fuller Iron Works, special castings, valve boxes and covers,	-	-	2,404 12
1821	William H. Miller & Co., blacksmith's work, repairing tools &c.,	-	-	81 46
1822	Fales, Jenks & Sons, water meters,	-	-	1,436 23
1823	Wood & Winsor, pipe, couplings, elbows, labor, &c.,	-	-	93 11
1824	Thomas Phillips & Co., service pipe,	-	-	375 09
1825	Samuel M. Gray, on account for payments for labor at Pettaconset,	-	-	300 00
1826	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
1827	Otis F. Clapp, " " " "	-	-	208 33
1828	Howard A. Carson, " " " "	-	-	250 00
1829	William T. Schneider, " " " "	-	-	100 00
1830	John E. Bowen, " " " "	-	-	100 00
1831	Daniel D. Waterman, " " " "	-	-	83 33
1832	Leprilete Sweet, 2d., " " " "	-	-	83 33
1833	Edmund B. Weston, " " " "	-	-	83 33
1834	William M. Brown, Jr., " " " "	-	-	83 33
1835	Daniel O. Stone, " " " "	-	-	83 33
1836	Edwin P. Dawley, " " " "	-	-	16 67
1837	William F. Janes, " " service pipe engineer,	-	-	83 33
1838	Augustus F. Nagle, " " mechanical engineer,	-	-	100 00
	Amount carried forward,	-	-	\$38,868 64

REPORT OF THE WATER COMMISSIONERS.

17

	Amount brought forward,	-	-	\$38,868 64
1839	Edwin P. Dawley,	salary as student, engineering department,		33 33
1840	Frank B. Ferris,	" " " "	"	41 67
1841	Thomas L. Botts,	" " " "	"	41 67
1842	William H. Olmstead,	" " " "	"	41 67
1843	George B. Francis,	" " " "	"	33 33
1844	Charles A. Harper,	" " " "	"	28 33
1845	Alfred E. Martin,	" " " "	"	33 33
1846	Charles F. Angell,	" " " "	"	25 00
1847	Albert L. Bodwell,	" " " "	"	33 33
1848	Walter F. Slade,	" " service pipe clerk, "	"	83 33
1849	William Aplin,	" " clerk, engineering department,		83 33
1850	William H. Turner,	" " " "	"	100 00
1851	Irving H. Potter,	" " " "	"	58 50
1852	Andrew B. Purdy,	" " superintendent of pipe work,		186 67
1853	William H. Patterson,	" " inspector on pipe line,		104 00
1854	Samuel R. Eccleston,	" " " "	"	104 00
1855	S. Horace Wheeler,	" " of service pipes,		125 00
1856	Henry M. Wilcox,	" " assistant inspector of service pipes,	-	100 00
1857	Frederic A. Arnold,	" " inspector of water fixtures,		100 00
1858	Albert C. Winsor,	" " asst. " "	"	78 00
1859	Edward A. Moran,	" " " " meters,		83 33
1860	John Lyons,	" " plumber, meter department,		65 00
1861	John Higgins,	" " " "	"	21 00
1862	John Lally,	" " plumber's helper, meter department,		22 50
1863	Simeon Noell,	salary as inspector of engine work, -		250 00
1864	Burrows Chace,	" " " at Hope Reservoir,		130 00
1865	George W. Mitchell,	" " " "	"	115 00
1866	Alexis C. Miller,	" " " "	"	105 00
1867	Jeptha Baker,	" " keeper of Sockanosset Reservoir,		75 00
1868	Albert E. Angell,	" " temporary ass't engineer'g departm't,		45 50
1869	George H. Slade,	" " " "	"	54 00
1870	Edward C. Reynolds,	" " " "	"	39 00
1871	George W. Winsor, Jr.,	" " " "	"	36 00
1872	Henry G. Dennis,	" " superintendent of pipe yard,		125 00
1873	Richard M. Wood,	" " clerk at pipe yard,		83 33
1874	John Cuthbert,	" " pumping engineer, Pettacaonset,		100 00
1875	John Hamilton,	" " " "	"	85 00
1876	George F. Barney,	" " fireman, Pettacaonset,		60 00
1877	Patrick O'Rourke,	" " " "	"	70 00
1878	John Quinn,	" " pumping engineer, Hope station,		125 00
1879	Joseph F. Plant,	" " " "	"	90 00
1880	Thomas Miller,	" " fireman, Hope station,		65 00
1881	Michael Hamill,	" " " "	"	65 00
1882	William F. Tanner,	" " axeman,		48 00
1883	William H. Kelly,	testing cement,	-	44 44
1884	Warren S. Burnap,	" " "	-	43 20
1885	Henry Wright,	" " "	-	14 00
	Amount carried forward,	-	-	\$42,342 43

	Amount brought forward,	-	-	-	\$42,342 43
1886	Jesse W. Coleman, salary as commissioners' clerk,	-	-	-	35 00
1887	Leonard N. Austin, Jr., " " " "	-	-	-	75 00
1888	Thomas C. Gushee, " " " "	-	-	-	100 00
1889	Philip S. Chase, " " " "	-	-	-	150 00
1890	Clinton D. Sellow, salary as secretary of water commissioners,	-	-	-	200 00
1891	John Purnell, " " janitor, &c.,	-	-	-	56 98
1892	Clinton D. Sellow, paid by him for sundries,	-	-	-	41 13
1893	Charles H. Pierce, " " " labor,	-	-	-	1,781 66
1894	" " " " sundries,	-	-	-	57 01
1895	Samuel M. Gray, engineering services, self and assistants,	-	-	-	372 34
1896	" " " paid by him for labor,	-	-	-	506 48
1897	" " " horse hire, and sundries,	-	-	-	64 88
1898	Providence Press Co., advertising,	-	-	-	21 85
1899	Knowles, Anthony & Danielson, advertising,	-	-	-	18 37
1900	J. C. Thompson, mounting folded maps,	-	-	-	18 75
1901	Potter, Denison & Co., office furniture,	-	-	-	14 25
1902	Gorham Mfg. Company, badges,	-	-	-	10 00
1903	J. M. Baker, rods with brass ends,	-	-	-	6 46
1904	A. Waite, teaming,	-	-	-	8 15
1905	Isaac Hale, repairing tide gauge clock,	-	-	-	22 00
1906	Newport Mfg. Company, couplings,	-	-	-	19 69
1907	Waldron, Wightman & Co., soap,	-	-	-	6 80
1908	W. E. Barrett & Co., lawn seed,	-	-	-	8 00
1909	F. P. Little, valvoline oil and felting,	-	-	-	70 95
1910	Seth Clark, cutting and dressing stone,	-	-	-	81 00
1911	Walter Coleman & Sons, sleeves, &c., (charged to Paulding, Kemble & Co.),	-	-	-	14 62
1912	John A. Moore, teaming, &c.,	-	-	-	44 50
1913	Daniel F. Burlingame, repairing tools, &c.,	-	-	-	35 10
1914	Wood & Winsor, machinist's labor, pipe and fittings, &c.,	-	-	-	42 44
1915	Union Water Meter Co., repairing meters, &c.,	-	-	-	119 00
1916	John H. Eddy, brooms, baskets, &c.,	-	-	-	16 75
1917	Providence Builders' Association, bricks,	-	-	-	107 50
1918	Abbott Lawrence, expressage on meters,	-	-	-	19 50
1919	Providence and Stonington Steamship Co., freight of iron work, (charged to Architectural Iron Works),	-	-	-	15 00
1920	J. A. Gowdey & Son, steel tape,	-	-	-	42 25
1921	Providence Steam Engine Co., repairing hydraulic pump,	-	-	-	19 05
1922	Hopkins & Pomroy, coal, lime, cement, teaming, &c.,	-	-	-	4,147 93
1923	Paulding, Kemble & Co., on account for constructing pump- ing engine,	-	-	-	300 00
1924	do. do. do. do. do.	-	-	-	1,400 00
1925	Samuel M. Gray, on account for payments for labor,	-	-	-	500 00
1926	" " " paid by him for labor at Pettaconset,	-	-	-	1,480 43
1927	Barker, Whitaker & Co., tools, hose, rope, &c.,	-	-	-	392 44
1928	Lobdell & Newmans, on account for constructing Hope Reservoir,	-	-	-	16,150 00
1929	Foster S. Dennis, trenching and back-filling, and laying water pipes,	-	-	-	3,150 00
	Amount carried forward,	.	.	.	\$74,085 69

	Amount brought forward,		\$74,085 69
1930	Tucker, Swan & Co., coal,		375 92
1931	William H. Miller & Co., blacksmith's work, repairing tools, &c.,		29 79
1932	John H. Appleton, collecting and testing samples of water,		30 00
1933	H. B. Bowen, pipe bolts,		53 18
1934	Akerman & Co., blank books,		56 80
1935	Providence Concrete Co., concreting around service boxes,		72 50
1936	Tuttle & Hobbs, horse keeping, &c.,		287 93
1937	Providence Gas Co., gas,		104 52
1938	Foster S. Dennis, carting pipes,		575 72
1939	Fales, Jenks & Sons, meters,		1,510 03
1940	Fuller Iron Works, valve boxes, special castings, &c.,		2,222 24
1941	Thomas Phillips & Co., service pipe,		1,582 82
1942	Dexter Gorton & Co., carpenter's work, lumber, &c.,		340 75
1943	Lobdell & Newmans, labor, &c., at Hope station,		584 36
1944	Edward T. Caswell, M. D., professional services, Thomas Garrity, (charged to Paulding, Kemble & Co.),		40 00
1945	L. B. Inman, charges in consequence of injury to Thomas Garrity, (charged to Paulding, Kemble & Co.),		55 93
1946	Bridget Coffey, charges in consequence of injury to Thos. Garrity, (charged to Paulding, Kemble & Co.),		33 17
1947	Thomas Phillips & Co., on account for labor and materials, engine house at Pettaconset,		1,500 00
1948	Warren Foundry and Machine Co., cast iron water pipes,		9,276 37
1949	Fales, Jenks & Sons, on account for fire hydrants, hydrant boxes, &c.,		7,500 00
1950	Lawton & Stockman, professional services, Thomas Garrity, (charged to Paulding, Kemble & Co.),		90 00
1951	Hopkins & Pomroy, teaming,		84 00
1952	Henry L. Norris, thawing service pipes,		25 75
1953	New England Butt Co., drinking trough castings,		12 12
1954	Samuel M. Gray, on account for payments for labor,		800 00
1955	James Glass, labor, &c., engine house at Pettaconset,		960 77
1956	Robert Arnold, damage by surface water from Hope Reservoir grounds,		75 00
1957	William H. Fenner & Co., oil cans, labor, &c.,		27 74
1958	City of Providence, sewer department, labor and materials on account of thawing pipes,		81 91
1959	S. L. Watson, carting brick,		16 50
1960	Gorham Mfg. Company, cups and chains for drinking fountains,		45 00
1961	L. H. Tillinghast & Co., faucets, &c.,		54 50
1962	Barker, Whitaker & Co., tools, &c.,		32 99
1963	Wood & Winsor, labor, pipe and fittings, &c.,		113 94
1964	Dexter Gorton & Co., carpenter's work, lumber, &c.,		301 48
1965	Fales, Jenks & Sons, fire hydrants, stop valves, hydrant boxes, &c.,		3,123 89
1966	Thomas Phillips & Co., pipe, labor, couplings, elbows, &c.,		119 51
1967	Charles H. Pierce, salary as assistant engineer,		250 00
1968	Otis F. Clapp,		208 33
1969	Howard A. Carson,		250 00
	Amount carried forward,		\$107,021 15

	Amount brought forward,				\$107,021 15
1970	Wm. T. Schneider, salary as	assistant engineer,		-	100 00
1971	John E. Bowen,	" " " "		-	100 00
1972	Daniel D. Waterman,	" " " "		-	83 33
1973	Leprilete Sweet, 2d.,	" " " "		-	83 33
1974	Edmund B. Weston,	" " " "		-	83 33
1975	Win. M. Brown, Jr.,	" " " "		-	83 33
1976	Daniel C. Stone,	" " " "		-	83 33
1977	Edwin P. Dawley,	" " " "		-	83 33
1978	William F. Jones,	" " service pipe engineer,		-	83 33
1979	Augustus F. Nagle,	" " mechanical "		-	150 00
1980	Frank B. Ferris,	" " student, engineering department,		41 67	
1981	Thomas L. Botts,	" " " " "		41 67	
1982	William H. Olmstead,	" " " " "		41 67	
1983	George B. Francis,	" " " " "		33 33	
1984	Charles A. Harper,	" " " " "		33 33	
1985	Alfred E. Martin,	" " " " "		6 45	
1986	Charles F. Angell,	" " "on trial,"		25 00	
1987	Albert L. Bodwell,	" " " " "		33 33	
1988	Walter F. Slade,	" " service pipe clerk, "		83 33	
1989	William Aplin,	" " clerk, engineering department,		83 33	
1990	William H. Turner,	" " " " "		100 00	
1991	Irving H. Potter,	" " " " "		56 25	
1992	Andrew B. Purdy,	" " superintendent of pipe work,		166 67	
1993	William H. Patterson,	" " inspector on pipe line,		104 00	
1994	Samuel E. Eccleston,	" " " " " "		104 00	
1995	S. Horace Wheeler,	" " of service pipes,		125 00	
1996	Henry M. Wilcox,	" " assistant inspector of service pipes,		100 00	
1997	Frederic A. Arnold,	" " inspector of water fixtures,		100 00	
1998	Albert C. Winsor,	" " assistant inspector of water fixtures,		78 00	
1999	Edward A. Moran, salary as	inspector of water meters,		140 00	
2000	John Lyons,	" " plumber, meter department,		57 50	
2001	John Lally,	" " plumber's helper, meter department,		20 00	
2002	Simeon Noell,	" " inspector of engine work,		250 00	
2003	Burrows Chace,	" " inspector at Hope Reservoir,		130 00	
2004	George W. Mitchell,	" " " " " "		115 00	
2005	Alexis C. Miller,	" " " " " "		105 00	
2006	Jeptha Baker,	" " keeper of Sockanosset Reservoir,		77 50	
2007	Albert E. Angell,	" " temporary assistant, engineering department,		43 75	
2008	George H. Slade, salary as	temporary assistant, engineering department,		82 00	
2009	Edward C. Reynolds, salary as	temporary assistant, engineering department,		37 50	
2010	George W. Winsor, Jr., salary as	temporary assistant, engineering department,		35 25	
2011	Mark Wilmarth, salary as	temporary assistant, engineering department,		53 76	
	Amount carried forward,				\$110,418 75

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	-	-	\$110,418 75
2012	Warren S. Burnap, salary as temporary assistant, engineering department,	-	-	-	25 50
2013	Charles H. Wheeler, salary as temporary assistant, engineering department,	-	-	-	15 00
2014	C. Frank Parkhurst, salary as temporary assistant, engineering department,	-	-	-	14 00
2015	Henry G. Dennis, salary as superintendent of pipe yard,	-	-	-	125 00
2016	Richard M. Wood, " " clerk at pipe yard,	-	-	-	83 33
2017	John Cuthbert, " " pumping engineer, Pettaconset,	-	-	-	100 00
2018	John Hamilton, " " " " " "	-	-	-	85 00
2019	George F. Barney, " " fireman, Pettaconset,	-	-	-	60 00
2020	Patrick O'Rourke, " " " " " "	-	-	-	70 00
2021	John Quinn, " " pumping engineer, Hope station,	-	-	-	125 00
2022	Joseph F. Plant, " " " " " "	-	-	-	90 00
2023	Thomas Miller, " " fireman, Hope station,	-	-	-	65 00
2024	Michael Hamill, " " " " " "	-	-	-	65 00
2025	William F. Tanner, " " axeman, " " " "	-	-	-	38 00
2026	Jesse W. Coleman, " " commissioners' clerk,	-	-	-	50 00
2027	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	-	75 00
2028	Thomas C. Gushee, " " " " " "	-	-	-	100 00
2029	Philip S. Chase, " " " " " "	-	-	-	150 00
2030	Clinton D. Sellaw, " " sec'y of water commissioners,	-	-	-	200 00
2031	John Purnell, " " janitor, &c.,	-	-	-	55 84
2032	Charles H. Pierce, paid by him for labor, &c.,	-	-	-	1,500 15
2033	" " " " " " sundries,	-	-	-	102 18
2034	Samuel M. Gray, engineering services, self and assistants,	-	-	-	503 13
2035	" " " " " " horse hire and sundries,	-	-	-	140 24
2036	" " " " " " paid by him for labor,	-	-	-	1,205 96
2037	Charles E. Jencks, labor, &c., at Hope station,	-	-	-	120 69
2038	George L. Brownell, open wagon,	-	-	-	150 00
2039	G. W. Edmunds, repairing and painting wagon,	-	-	-	40 32
2040	J. B. Handy, repairing wagon,	-	-	-	8 12
2041	American Screw Co., screws, (charged to Architectural Iron Works),	-	-	-	43 55
2042	Buff & Berger, repairing and adjusting transit,	-	-	-	36 80
2043	Abbott Lawrence, expressage on meters,	-	-	-	13 80
2044	Johnson & Whittemore, repairs on telegraph line,	-	-	-	7 20
2045	Newport & Providence Lead Works, lead,	-	-	-	69 38
2046	Olney Brothers, oil,	-	-	-	10 50
2047	Allen Fire Department Supply Co., hose, &c.,	-	-	-	18 25
2048	Hammond, Angell & Co., printing,	-	-	-	92 22
2049	Gideon G. Hicks, old boiler, &c., for drinking fountain,	-	-	-	106 33
2050	Freeborn & Crowell, paint, oil, labor, &c.,	-	-	-	24 74
2051	Daniel F. Burlingame, repairing tools, &c.,	-	-	-	25 22
2052	Hopkins & Pomroy, coal, cement and lime,	-	-	-	560 92
2053	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	-	-	49 87
2054	Cleveland & Brothers, office furniture, &c.,	-	-	-	52 44
2055	C. S. Sweetland, repairing damage to side walk,	-	-	-	17 59
2056	Providence Press Co., advertising,	-	-	-	15 50
	Amount carried forward,	.	.	.	\$116,934 52

	Amount brought forward,		\$116,934 52
2057	Fales, Jenks & Sons, water meters,	-	1,176 00
2058	Thomas J. Hill, rent of wharf and pipe yard,	-	875 00
2059	Paulding, Kemble & Co., on account, for constructing pumping engine,	-	1,300 00
2060	Lobdell & Newmans, on account, for constructing Hope Reservoir,	-	4,050 00
2061	Lobdell & Newmans, extra labor, &c., Hope pumping station,	250 40	
2062	Foster S. Dennis, trenching, and back-filling and laying water pipes,	-	3,550 00
2063	Foster S. Dennis, earthing pipes,	-	355 85
2064	Hopkins & Pomroy, teaming,	-	78 00
2065	William H. Knight, charcoal,	-	36 27
2066	Tucker, Swan & Co., coal,	-	1,407 28
2067	S. A. Thornton, shelves for safe, &c., engineering department,	9 12	
2068	Thomas Phillips & Co., lead pipe and tin lined lead pipe,	1,351 42	
2069	Fuller Iron Works, special castings and valve boxes,	1,563 53	
2070	Charles P. Chapman, stone steps at Hope Reservoir,	535 86	
2071	Wood & Winsor, labor, pipe and fittings, &c.,	65 93	
2072	Charles H. Pierce, on account, for paying laborers,	200 00	
2073	Buff & Berger, repairing level, &c.,	24 00	
2074	John Mason, altering pattern of drinking fountain, &c.,	7 04	
2075	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	1,267 73	
2076	Samuel M. Gray, on account, for payments for labor at Pettaconset,	-	500 00
2077	B. F. Almy, cop waste,	-	12 00
2078	T. & W. Breck, rent of offices, &c.,	-	877 50
2079	James Glass, on account for labor and materials, roof of engine house at Pettaconset,	-	2,000 00
2080	Stephen Knobb, drawing check valve to Pettaconset,	20 00	
2081	William H. Miller & Co., blacksmith's work, repairing tools, &c.,	41 30	
2082	Providence and Stonington Steamship Co., freight of iron work, (charged to Architectural Iron Works,)	-	11 29
2083	Providence Steam and Gas Pipe Co., couplings, elbows, nipples, &c.,	-	24 47
2084	W. Congdon & Sons, rope, bolts and tape,	-	7 17
2085	George H. Burnham, services and expenses, selling house near Hope Reservoir,	-	12 50
2086	Bugbee & Hall, stationery, &c.,	-	115 99
2087	Architectural Iron Works, on account for roof of engine house and boiler house at Pettaconset,	-	2,200 00
2088	W. F. & F. C. Sayles, land in Lincoln,	-	2,043 09
2089	J. Herbert Shedd, salary as chief engineer,	-	2,000 00
2090	Charles H. Pierce, " " assistant engineer,	-	250 00
2091	Otis F. Clapp, " " " " "	-	208 33
2092	Howard A. Carson, " " " " "	-	250 00
2093	William T. Schneider, " " " " "	-	100 00
2094	John E. Bowen, " " " " "	-	100 00
2095	Daniel D. Waterman, " " " " "	-	83 33
2096	Leprilite Sweet, 2d, " " " " "	-	83 33
	Amount carried forward,	-	\$145,978 25

	Amount brought forward,				\$145,978 25
2097	Edmund B. Weston, salary as assistant engineer,				83 33
2098	William M. Brown, Jr., " " " "				83 33
2099	Daniel C. Stone, " " " "				83 33
2100	Edwin P. Dawley, " " " "				83 33
2101	William F. Janes, " " service pipe " "				83 33
2102	Augustus F. Nagle, " " mechanical " "				150 00
2103	Frank B. Ferris, salary as student, engineering department,				41 67
2104	Thomas L. Botts, " " " "				41 67
2105	William H. Olmstead, " " " "				41 67
2106	George B. Francis, " " " "				33 33
2107	Charles A. Harper, " " " "				33 33
2108	Alfred E. Martin, " " " "				24 73
2109	Charles F. Angell, " " "on trial," " "				25 00
2110	Albert L. Bodwell, " " " "				33 33
2111	Walter F. Slade, " " service pipe clerk, " "				83 33
2112	William Alpin, " " clerk, engineering department,				83 33
2113	William H. Turner, " " " "				100 00
2114	Irvin H. Potter, " " " "				60 75
2115	Andrew B. Purdy, " " superintendent of pipe work,				166 67
2116	William H. Patterson, " " inspector on pipe line, -				104 00
2117	Samuel R. Eccleston, " " " " " "				36 00
2118	S. Horace Wheeler, " " " of service pipes, -				125 00
2119	Henry M. Wilcox, " " asst. " " " "				100 00
2120	Frederic A. Arnold, " " " " water fixtures,				100 00
2121	Albert C. Winsor, " " asst. " " " "				78 00
2122	Edward A. Moran, " " " " meters,				100 00
2123	John Lyons, salary as plumber, meter department,				40 00
2124	John Higgins, " " " " "				16 50
2125	James Higgins, " " " " "				50 00
2126	John Lally, " " plumber's helper, meter department,				20 83
2127	Simeon Noell, " " inspector of engine work, .				250 00
2128	Alexis C. Miller, " " " at Hope Reservoir, &c.,				80 81
2129	Jeptha Baker, " " keeper of Sockanosset Reservoir,				77 50
2130	Albert E. Angell, salary as temporary assistant, engineering department,				40 25
2131	George H. Slade, salary as temporary assistant, engineering department,				83 60
2132	Edward C. Reynolds, salary as temporary assistant, engineering department,				39 00
2133	George W. Winsor, Jr., salary as temporary assistant, engineering department,				37 50
2134	Mark Wilmarth, salary as temporary assistant, engineering department,				43 01
2135	Warren S. Burnap, salary as temporary assistant, engineering department,				6 75
2136	Charles H. Wheeler, salary as temporary assistant, engineering department,				17 00
2137	C. Frank Parkhurst, salary as temporary assistant, engineering department,				16 00
	Amount carried forward,				\$148,775 46

	Amount brought forward,	\$148,775 46
2138	Henry G. Dennis, salary as superintendent of pipe yard,	125 00
2139	Richard M. Wood, " " clerk at pipe yard,	83 33
2140	John Cuthbert, " " pumping engineer, Pettaconset,	100 00
2141	John Hamilton, " " " " "	85 00
2142	George F. Barney, " " fireman, Pettaconset,	60 00
2143	Patrick O'Rourke, " " " " "	70 00
2144	John Quinn, " " pumping engineer, Hope station,	125 00
2145	Joseph F. Plant, " " " " "	90 00
2146	Thomas Miller, " " fireman, Hope station,	65 00
2147	Michael Hamill, " " " " "	65 00
2148	William F. Tanner, " " axeman,	54 00
2149	Jesse W. Coleman, " " commissioners' clerk,	50 00
2150	Leonard N. Austin, Jr., salary as commissioners' clerk,	75 00
2151	Thomas C. Gushee, " " " " "	100 00
2152	Philip S. Chase, " " " " "	150 00
2153	Clinton D. Sellew, " " secretary of water com- missioners,	200 00
2154	William Corliss, " " water commissioner,	500 00
2155	Charles E. Carpenter, " " " " "	500 00
2156	Joseph J. Cooke, " " " " "	500 00
2157	John Purnell, " " janitor, &c.,	87 04
2158	Charles H. Pierce, paid by him for sundries,	210 79
2159	Charles H. Pierce, " " " " labor,	1,094 79
2160	Samuel M. Gray, engineering services, self and assistants,	519 50
2161	Samuel M. Gray, paid by him for labor,	231 15
2162	Samuel M. Gray, " " " " sundries,	95 80
2163	William H. Miller & Co., bolts and nuts, repairing tools, &c.,	445 33
2164	Daniel F. Burlingame, repairing tools, &c.,	48 92
2165	Wood & Winsor, labor, pipe and fittings,	11 04
2166	Thomas Phillips & Co., galvanized iron, lead, &c.,	20 17
2167	George W. Smith, cutting curbstones for hydrant boxes,	14 00
2168	Butler, Brown & Co., copper wire cloth, (charged to R. I. Locomotive Works,)	53 07
2169	Abbott Lawrence, expressage on meters,	19 10
2170	J. M. Baker, labor, &c.,	10 76
2171	Walter Coleman & Sons, snatch blocks,	11 50
2172	Olney Brothers, oil,	10 87
2173	American Screw Co., screws, (charged to Architectural Iron Works,)	29 60
2174	Providence Builders' Association, materials for connecting drinking trough with sewer,	6 99
2175	Union Water Meter Co., repairing meters,	38 20
		<hr/> \$154,701 41

RECEIVED FROM JUNE 1, 1875, TO AUGUST 31, 1875, INCLUSIVE,
AND PAID TO THE CITY TREASURER.

1875.

June	5.	Of John Smurthurst, for three months' rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to September 1, 1875,	56 25
		Of Samuel M. Gray, for sundries,	11 22
		Of James Smith, for hose,	7 00
	12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to June 12, 1875,	14 58
July	19.	Of Charles R. Dennis, for laying a temporary pipe in Adelaide avenue,	150 00
		Of A. N. Beckwith, for earth from Hope Reservoir,	1 62
	30.	Of George B. Inman, for labor and materials,	5 64
	1.	Of Henry L. Johnson, for three months' rent of land in Pawtuxet, to July 1, 1875,	21 75
	2.	Of City of Providence, for sewer expenses,	2,327 18
	7.	Of Peleg P. Cranston, for three months' rent of "Randall Estate," so called, to July 1, 1875,	50 00
	12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to July 12, 1875,	14 58
		Of Commissioners of North Burial Ground, for cup, chain, &c.,	5 00
		Of John F. Parks, for stones from Hope Reservoir,	22 00
		Of Ellery Millard, for soil, " "	10 00
August	20.	Of Fuller Iron Works, for scrap iron,	647 10
		Of Samuel M. Gray, for soil from Hope Reservoir,	6 79
	31.	Of Samuel M. Gray, for stones, from Hope "	10 25
	5.	Of John Smurthurst, for three month's rent of farm in Warwick, purchased of Richard U. Rhodes and wife, to December 1, 1875,	56 25
	12.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to August 12, 1875,	14 58
	20.	Of Fuller Iron Works, for scrap iron,	34 20
		Of Samuel M. Gray, for sundries,	4 75
	25.	Of George H. Burnham, for dwelling house at Hope pumping station, sold at auction,	310 00
	28.	Of City of Providence, for sewer expenses,	510 59
	31.	For setting and repairing meters during the present quarter,	917 31
		For laying service pipes during the present quarter,	816 19
		For couplings for street sprinklers during the present quarter,	4 60
		For meters during the present quarter,	3,799 00
		For water during the present quarter,	21,177 88
		For penalties during the present quarter,	22 00
			<hr/> \$31,028 31

TRIAL BALANCE OF LEDGER, AUGUST 31, 1875.

Dr.

Hope reservoir, for land,	.	.	117,878 65
" " " sundries,	.	.	1,755 31
" " " labor,	.	.	6,692 63
" " " gate chambers,	.	.	10,192 29
" " " gate houses,	.	.	2,708 70
" " " drain,	.	.	406 03
" " " inspection,	.	.	8,509 79
" " " conduit,	.	.	3,681 98
" " " slope wall,	.	.	43,127 81
" " " steps,	.	.	3,100 68
" " " iron railing,	.	.	24 92
• Hope engine house,	.	.	105,144 84
Sockanosset reservoir, for construction,	.	.	177,870 72
" " " sundries,	.	.	124 45
" " " land,	.	.	14,435 36
" " " gate houses,	.	.	18,634 15
" " " drain,	.	.	2,431 13
" " " inspection,	.	.	6,819 18
" " " extra work and materials,	.	.	189 70
" " " gate chambers,	.	.	19,299 27
" " " improvement of grounds,	.	.	9,534 02
" " " steps,	.	.	3,235 94
Lincoln reservoir, for land,	.	.	2,043 09
Line of leading mains, for labor and materials,	.	.	19,950 30
" " " " extra trenching, etc.,	.	.	472 45
" " " " land and damages,	.	.	1,665 00
Force main line, for land and damages,	.	.	3,006 35
" " " " labor and materials,	.	.	5,153 53
" " " " extra trenching, etc.,	.	.	332 56
Office furniture, stoves, gas fixtures, etc.,	.	.	1,304 23
Rent of offices,	.	.	2,680 56
Books, stationery, etc.,	.	.	630 96
Fuel and lights,	.	.	217 08
Horse hire by commissioners,	.	.	19 00
Traveling expenses of commissioners,	.	.	161 92
Janitor of rooms,	.	.	447 20
Commissioners' salaries,	.	.	21,042 16
Secretary's salary,	.	.	2,455 56
Clerks' salaries,	.	.	3,836 53
Sundries,	.	.	348 94
Printing,	.	.	2,116 65
Advertising,	.	.	1,929 88
Amount carried forward,	.	.	<u>\$625,609 50</u>

REPORT OF THE WATER COMMISSIONERS.

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Amount brought forward,	\$625,609 50
Fences,	2,075 38
Rent of wharves and pipe yards,	7,150 21
Stop valves,	69,607 39
Linking curved pipes,	232 75
Store house and work shop,	1,208 98
Tools,	10,984 54
Labor on pipes,	18,543 01
Cast iron water pipes,	1,333,598 48
Special castings,	100,134 83
Lumber,	1,576 30
Fire hydrants,	100,120 46
Sockanosset hill cross road,	3,835 38
Telegraph lines,	2,228 84
Dwelling houses at Pettaconset,	10,061 80
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,537 92
Real estate in Warwick,	11,530 59
Water privileges, mill and other real estate in Pawtuxet,	45,702 90
Pochasset bridge,	5,559 82
Wharf salaries,	10,124 48
Temporary engine house at Pettaconset,	9,775 86
Roads, slopes, &c., at Pettaconset,	12,042 95
Engine house at Pettaconset,	300,738 04
Natural filter basin,	41,518 35
Removing loam,	462 95
Iron screw piles,	3,766 46
Hydrant bolts,	1,940 78
Pipe bolts,	1,853 71
Photographs,	328 25
Hydrant heads,	7,443 00
Taps and stops,	17,912 73
Valve covers,	9,377 56
Service pipe,	46,732 36
Hydrant boxes,	28,706 67
Setting fire hydrants,	10,557 29
Check valves,	1,412 48
Valve boxes,	31,923 39
Air cocks, boxes, covers and setting,	526 12
Setting blow-offs,	331 49
Pettaconset pumping station, for land,	25,901 27
G. B. & W. F. Inman,	5 29
Lobdell & Newmans,	183,025 00
A. & W. Sprague Manufacturing Company,	2,500 00
Paulding, Kemble & Co.,	102,027 43
Thomas Phillips & Co.,	2,583 84
Heirs of Joseph Harris,	32 58
James Glass,	3,580 31
Providence Steam Engine Co.,	22,018 12
Amount carried forward,	\$3,239,163 17

Amounts brought forward,	\$3,239,163 17
Rhode Island Locomotive Works, . . .	18,110 36
Architectural Iron Works, . . .	30,453 77
Ryder Reciprocal Grate Association, . . .	17 07
Foster S. Dennis, . . .	8,500 00
Sewer Department, salaries and office expenses, . . .	1,003 17
Samuel M. Gray, . . .	500 60
Fales, Jenks & Sons, . . .	50
City Treasurer, . . .	223,700 36
City Treasurer, for water payments, . . .	405,841 83
Testing pipe iron, . . .	443 50
Iron drain pipes and gate, . . .	224 21
Carting pipes, . . .	39,815 58
Counsel fees, . . .	5,500 00
Inspection of pipes, . . .	10,562 23
Testing bolts and composition castings, . . .	34 25
Laying water pipes, . . .	389,931 67
Laying service pipes, . . .	30,934 75
Laying suction pipe, etc., . . .	85 00
Drainage pump and engine, . . .	5,110 72
Hydrants for street sprinklers, . . .	2,633 15
Inspection of pipe laying, . . .	31,254 12
Temporary boarding house at Pettaconset, . . .	1,428 38
Public drinking fountains and troughs, . . .	2,882 64
Warwick test pits, . . .	1,313 40
Engine house at Pettaconset, for drain, . . .	2,132 37
Water meters set belonging to the city, . . .	1,258 72
Worthington pumping engine, . . .	35,522 33
Hope pumping engine, . . .	63,104 67
Cornish pumping engine, . . .	8,682 55
Keeper's house at Sockanosset reservoir, . . .	7,088 84
Pipe in river embankment at Pettaconset, . . .	4,067 82
Inspection of engine work, . . .	2,937 08
Alterations at Hope pumping station for second engine, . . .	617 04
Boilers for Cornish engine, . . .	5,900 33
Stand pipe at Pettaconset, . . .	46 94
	<hr/> \$4,580,802 51

ENGINEERING DEPARTMENT:—

For Instruments, . . .	\$3,357 41
Tools, . . .	728 55
Furniture, stoves, gas fixtures, etc., . . .	2,883 57
Draughting, . . .	3,523 52
Labor, . . .	9,088 07
Horse and wagon account, . . .	2,744 60
Horse keeping, shoeing, etc., . . .	2,340 68
Horse hire, . . .	4,985 65
Rent of offices, . . .	6,692 97
Amounts carried forward,	<hr/> \$30,315 02
	<hr/> \$4,580,802 51

REPORT OF THE WATER COMMISSIONERS.

29

Amounts brought forward,	\$36 345 02	\$4,580,802 51
Fuel and lights,	706 19	
Janitor of rooms,	1,234 11	
Experimental filter,	91 08	
Books, stationery, etc.,	3,428 86	
Sundries,	3,485 78	
Test wells,	1,579 40	
Consultations,	827 08	
Office building at Pettaconset,	567 60	
“ “ “ Sockanosset reservoir,	563 22	
Stakes and strips,	1,284 32	
Printing,	562 03	
Maps,	105 42	
Service pipe experiments,	296 04	
Temporary assistance,	10,086 48	
Salaries,	117,651 41	
		178,814 64

MAINTENANCE:—

Hope pumping station, for coal and wood,	\$7,141 69	
“ “ “ “ engineers,	3,082 56	
“ “ “ “ firemen,	1,804 65	
“ “ “ “ lights,	1,491 90	
“ “ “ “ sundries,	540 28	
“ “ “ “ night and Sunday watch,	41 23	
Pettaconset pumping station, for coal and wood,	24,993 33	
“ “ “ “ engineers,	6,500 84	
“ “ “ “ firemen,	5,867 03	
Pettaconset pumping station, for labor on fuel,	2,283 27	
“ “ “ “ sundries,	4,197 97	
“ “ “ “ night and Sunday watch,	2,576 73	
Sockanosset reservoir, for watch,	3,320 25	
“ “ “ “ sundries,	4,660 00	
Hope reservoir, for watch,	160 00	
Ascertaining and removing nuisances on Pawtuxet river,	479 46	
Worthington pumping engine,	7,643 37	
Hope pumping engine,	4 66	
Miller boilers at Pettaconset,	137 66	
Change of grades,	1,639 94	
Inspection of water fixtures,	4,635 81	
Repairs on pipe line,	8,402 92	
Meter testing room,	270 91	
Setting, inspection and repair of meters,	609 50	
Commissioners' salaries,	7,333 37	
Secretary's salary,	2,455 60	
Clerks' salaries,	5,496 69	
Rent of offices,	1,218 04	
Amounts carried forward,	\$109,448 66	\$4,759,616 55

Amounts brought forward,		\$109,448 66	\$4,759,616 55
Fuel and lights,	.	56 68	
Janitor of rooms,	.	244 21	
Books, stationery, &c.,	.	633 96	
Printing,	.	673 61	
Advertising,	.	83 41	
Sundries,	.	337 35	
Counsel fees,	.	1,000 00	
Thawing pipes, gates, &c.,	.	1,264 82	
Supplying water takers by reason of frost,	.	1,280 38	
Engineering department, for rent of offices,	.	2,542 08	
“ “ “ fuel and lights,	.	131 07	
“ “ “ janitor of rooms,	.	499 84	
“ “ “ books, stationery, &c.,	.	161 38	
“ “ “ printing,	.	166 07	
“ “ “ salaries,	.	15,308 50	
“ “ “ sundries,	.	13 24	
			133,845 26
			<u>\$4,893,461 81</u>

CR.

W. A. Burdick, Agent,	.	550 00	
Boston hydrants,	.	29 07	
Water meters,	.	1,921 08	
Penalties,	.	340 00	
Water,	.	405,841 82	
Approved bills,	.	4,484,779 84	
			<u>\$4,893,461 81</u>

**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO AUGUST 31, 1875, INCLUSIVE.**

MONTHS.	1872	1873.	1874.	1875.
January.....		\$40,699 09	\$69,356 70	\$92,102 10
February.....	\$796 06	4,314 80	3,678 96	4,674 19
March.....	6,671 82	6,609 73	9,221 19	4,777 42
April.....	1,668 59	2,810 07	4,936 98	10,093 32
May.....	2,063 41	1,766 28	2,338 59	2,574 92
June.....	8,634 89	8,228 92	2,583 35	8,140 99
July.....	3,488 27	6,214 24	13,756 51	9,035 23
August.....	1,818 14	1,441 09	1,953 37	4,001 66
September.....	4,933 44	7,550 64	5,541 34	.....
October.....	5,079 08	8,745 53	9,097 95	.....
November.....	477 04	872 83	1,511 03	.....
December.....	5,372 77	8,072 87	8,076 42	.....
	\$41,003 51	\$97,386 09	\$132,052 39	\$135,399 83



1875.]

CITY DOCUMENT.

[No. 47.]

SEVENTH QUARTERLY REPORT

OF THE BOARD OF

WATER COMMISSIONERS

OF THE

CITY OF PROVIDENCE.

[Elected February 27, 1874.]

DECEMBER 1, 1875.



PROVIDENCE:

ANGELL, BURLINGAME & CO., PRINTERS TO THE CITY.
1875.



ORGANIZATION
OF THE
PROVIDENCE WATER WORKS.

BOARD OF WATER COMMISSIONERS.

JOSEPH J. COOKE, PRESIDENT.

CHARLES E. CARPENTER,

WILLIAM CORLISS.

SECRETARY OF THE BOARD OF WATER COMMISSIONERS.

CLINTON D. SELLEW.

Office No. 35 North Main Street.

CHIEF ENGINEER.

J. HERBERT SHEDD.

Office No. 35 North Main Street.



REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS, }
Providence, R. I., December 1, 1875. }

TO THE HONORABLE THE CITY COUNCIL:

The undersigned Water Commissioners, elected February 27, 1874, under an "An Ordinance to establish a Board of Water Commissioners," approved same day, respectfully present their Seventh Quarterly Report:

An offer of Samuel B. Pearce to furnish the materials and erect a fence on the south side of Hope Reservoir, has been accepted.

An offer of the Architectural Iron Works, of New York, to furnish the materials and erect an iron bridge over the overflow at Hope Reservoir, as per plans, for the sum of three hundred and seventy-five dollars, (\$375.00,) has been accepted.

Advantage was taken of the filling of Hope Reservoir to draw all the water from Sockanosset Reservoir, for the purpose of examining its bottom with reference to sediment, (of which, unexpectedly, a mere *film* was found,) and to clear the reservoir of fish. The quantity of fish, also, was smaller than was anticipated. A small quantity of fine earth has been carted in, spread over the bottom and thoroughly rolled, for

the purpose of lessening the very slight amount of filtration. The reservoir is now again nearly full of water.

The engine for Hope Pumping Station, constructed by the Providence Steam Engine Company, being the second engine constructed for that station, has been erected, and now awaits the test required by the contract, before acceptance.

An agreement has been executed with the Providence Steam Engine Company, appointing Messrs. Charles Hermany, of Louisville, Kentucky, and James B. Francis and Channing Whitaker, both of Lowell, Massachusetts, the committee of experts provided for in the contract for the construction and erection of said engine, and it is expected that the test will be made about the middle of the present month.

On Friday, the 10th day of September, Simeon Noell, Inspector of Engine Work, while standing upon the platform around the cylinder where he was superintending the placing of the piston in the steam cylinder of the Cornish Pumping Engine at Pettaconset, was very seriously injured, losing a portion of his skull and one eye, by the fall of a block, caused by the breaking of a connecting strap. Mr. Noell is now at the Rhode Island Hospital, and is slowly improving.

John West, of Reading, Pennsylvania, has been engaged to act as consulting and superintending engineer in charge of the Cornish Engine at Pettaconset, and of the running of the engine for thirty days after starting, for the sum of twenty-five hundred dollars, (\$2,500.00), in full for services and all expenses.

Neither the Engine House at Pettaconset nor the Cornish Engine have been completed.

The daily consumption of water, including waste and leakage, during the last quarter, was about 2,311,000 gallons.

Plumbers' licenses have been issued as follows :
James T. Fish, Agent, Joseph Groves, George R. Howard.

On the 1st day of September, 1875, Michael J. Higgins was notified to show cause why his license as Plumber should not be revoked, and that in the meantime his license was suspended. Mr. Higgins has made no appearance.

The whole number of plumbers' licenses issued is sixty-four. Suspended, three. Revoked, one. Remaining in force, sixty

The following statement shows the length of pipes laid during the last quarter; the sizes of the pipes; where laid; and the totals since the commencement of the work:

36 INCH.

At Pettaconset,	-	-	-	-	88 feet.
Including 2 cut pipes.					
Previously,	-	-	-	-	9,996 feet.
Total,	-	-	-	-	<u>10,084 feet.</u>

8 INCH.

In McKenna and Square streets and at Pettaconset,	-	-	-	-	744 feet.
Including 8 cut pipes, 2 curved pipes, 5 branches and 3 gates.					
Previously,	-	-	-	-	73,615 feet.
Total,	-	-	-	-	<u>74,359 feet.</u>

6 INCH.

In Borden, Carter, Crary, George, Grove, Halton, Langley, Mill, Pearl, Pike, Royal, Sackett, Sayles and Westfield streets; in Angell and Doyle places, and at Pettaconset,	-	7,165 feet.
Including 23 cut pipes, 15 curved pipes, 19 branches and 13 gates.		

Previously,	-	-	-	-	- 386,931 feet.
Total,	-	-	-	-	- 394,096 feet.
Total of all sizes during the last quarter,					- 7,997 feet.
or $1\frac{514}{1000}$ miles.					
Previously, including 10, 12, 16, 20, 24 and 30 inch, of which none have been laid during the last quarter,					- 625,475 feet.
Total,	-	-	-	-	- 633,472 feet.
or $119\frac{975}{1000}$ miles.					

Twenty-one fire hydrants have been set during the last quarter, one in each of the following locations:—

Atwell's avenue, north side, in range of west line of Julian street.

Borden street, north side, 180 feet east of Clay street.

“ “ “ “ 144 “ east of Plane street.

Bourbon “ south side, about 450 feet east of Greenwich street.

Bridgham street, east side, opposite north line of Gilbert street.

Grove street, south-west corner of Harris avenue.

“ “ south side, about 130 feet east of Valley street.

Halton “ west side, about 220 feet south of Potter's avenue.

Hope street, west side, half way between Cushing and Bowen streets.

Manton avenue, south-west side, opposite northwest line of Steere avenue.

Myrtle street, north-east corner of Pine street.

Royal “ north side, about 190 feet east of North Main street.

Sackett street, north side, 182 feet west of Broad street.

“ “ “ “ 590 “ “ “ “ “

Sayles “ “ “ in line with east side of Searle street.

Somerset street, north-east corner of Hayward street.

Square " north-east corner of Louisa street.

Stewart court, north-east corner of Garden street.

West Clifford street, south-west corner of Myrtle street.

" " " " " " Somerset street.

Westfield " south side, about half way between
Greenwich and Fuller streets.

The total number of fire hydrants is now nine hundred and one.

The height of water in Sockanosset Reservoir at 7 o'clock this morning was 178.34. High water in the reservoir is 180.50 (above high tide in Providence river.)

The height of water in Hope Reservoir at 7 o'clock this morning was 161.96. High water in the reservoir is 162.50 (above high tide in Providence river.)

Sixty-two Ball & Fitts' water meters, made by the Union Water Meter Co., and forty water meters, made by Fales, Jenks & Sons, have been put in at the expense of water takers since the date of the last report. One one-inch water meter, made by Fales, Jenks & Sons, has been changed for a three-quarter inch meter of the same make, and the use of one three-quarter inch Fales, Jenks and Sons' meter, has been discontinued. The use of three five-eighths inch water meters, made by the Union Water Meter Co., has also been discontinued.

There are now twenty-two hundred and fifty-six water meters in use, viz.:—

KIND.	SIZES.							TOTALS.
	$\frac{3}{8}$ inch.	$\frac{1}{2}$ inch.	1 inch.	$1\frac{1}{2}$ inch.	2 inch.	3 inch.	4 inch.	
Ball & Fitts.	1,301	225	82	45	8	1	1	1,663
Worthington.	169	....	....	....	....	..	1	170
Fales, Jenks & Sons.....	....	404	19	....	....	....	....	423
	1,470	629	101	45	8	1	2	2,256

The total number of applications for a supply of water is sixty-seven hundred and forty-eight.

The number of new service stops opened during the last quarter, is two hundred and seventy-nine.

The number of service stops opened to date is fifty-seven hundred and ninety-six.

Nine stops have been closed during the last quarter, for non-payment of bills, four of which have been re-opened on payment of bill and a penalty in each case of two dollars; and one was re-opened on payment of the bill, without charge for penalty, for reason of attendant circumstances. Three stops previously closed for non-payment have been re-opened during the last quarter; in one case the bill and a penalty of two dollars were paid, and the remaining two, for reason of attendant circumstances, were re-opened on payment of bill, without penalty. Thirty-three stops closed for non-payment remain unopened; in one case, however, the bill and penalty of two dollars have been paid, but the party is not ready to have the stop re-opened. The use of four stops has been discontinued, but the pipes remain in view of possible future use.

Water is now supplied for the following uses:—

3 armories; 10 bakeries; 36 banks; 98 bar-rooms; 2 bath houses; 1 bath house—Turkish; 115 boarding houses; 9 bottling establishments; 31 building purposes; 1 burying ground; 1 car house; 2 carriage depositories; 3 chasers; 1 Christian Union; 29 churches; 1 city barn; 2 city bridges; 1 city building; 14 city drinking fountains; 25 city drinking troughs; 901 city fire hydrants; 5 city fire steamer stations; 9 city hose stations; 8 club rooms; 14 coal yards; 1 college; 1 colored shelter; 1 conservatory of music; 4 convents; 2 court houses; 1 decorator; 1 Dexter Asylum; 2367 dwellings of one family; 2341 dwellings of two families; 220 dwellings of three families; 266 dwellings of four families; 30 dwellings of five families; 51 dwellings of six families; 4 dwellings of seven families; 7 dwellings of eight families; 1 dwelling of nine families; 1 dwelling of twelve families; 2 dye houses; 8 elevators; 1 engine turner; 4 engravers; 2 enamel works; 1 express carriage house; 53 fire supplies, private; 61 fountains, private; 1 fountain, public; 1 furrier; 3052 garden and street hydrants; 4 gas holders; 5 gold and silver platers; 6 gold and silver refiners; 2 grain elevators; 39 green houses; 20 halls; 1 home for aged women; 2 hospitals; 17 hotels; 1 infirmary; 4 laundries; 3 libraries; 1 lithographer; 21 lodging houses; 2 lumber dealers; 1 mason.

Manufacturing establishments,—1 beer; 2 belt and picker; 3 blank book; 2 bleacheries; 1 bologna sausage; 1 bonnet bleachery; 2 boot and shoe; 1 box; 1 braiding works; 2 brass foundries; 2 breweries; 1 brush; 2 butt; 1 butter; 9 carriage; 2 cement pipe; 1 chain; 6 cigar; 1 cigar box; 18 cloak and dress; 1 coffin; 8 confectionery; 1 corset; 3 colorers of jewelry; 8 cotton; 1 crocus; 3 die sinkers; 2 dye wood; 1 emery wheel; 1 enameler of jewelry; 1 eyelet; 3 file; 9 furniture; 1 gas; 1 gas burner; 4 gas fixtures; 1 geer; 3 hat; 4 harness; 1 horse shoe; 2 ice cream and soda water; 1 iron company; 1 iron fence; 10 iron foundries; 1 japan switch; 1 jewelers' cards; 93 jewelry; 4 lapidaries; 28 machinists; 1 mowing machine; 1 nail keg; 2 oil; 1

organ ; 1 paper box ; 1 paper collar ; 3 paper cop tube ; 1 pattern ; 4 patent medicine ; 1 pencil case ; 4 picture frame ; 1 paint works ; 2 pump ; 2 reed ; 1 rubber goods ; 1 rubber tubing ; 4 sash and blind ; 1 saw ; 2 screw ; 1 sheet iron ; 1 shell comb ; 2 shirt ; 3 silverware ; 6 soap ; 1 spiral spring ; 1 starch ; 1 steam boiler ; 2 steam engine ; 1 stencil plate ; 1 stove ; 2 tanners ; 2 thread ; 1 tinware ; 4 tool ; 3 top roll ; 6 woolen goods ; 1 yeast. *Markets*,—48 fish ; 106 meat. *Mills*,—2 drug and grain ; 3 flour and grain ; 1 paint ; 10 planing. 5 marble works ; 1 nickel plater ; 1 opera house ; 2 orphan asylums ; 5 organs ; 4 oyster houses ; 560 offices ; 11 photographers ; 10 printing establishments ; 7 plaster and stucco workers ; 10 plumbers ; 10 provision curers and packers ; 6 police stations ; 7 railroads ; 1 reading room ; 44 restaurants ; 1 roofer. *Saloons*,—4 billiard ; 3 bowling ; 6 ice cream ; 26 lager beer ; 11 oyster. *Schools*,—1 boarding ; 14 private ; 37 public ; 1 reform. *Shops*,—45 barber ; 9 blacksmith ; 1 carpenter ; 3 cooper ; 1 gunsmith ; 1 junk ; 17 paint ; 5 shoemaker ; 23 tailor ; 5 tinman. *Stables*,—6 hack ; 48 livery ; 294 private ; 5 sale ; 70 work. 13 steamboats ; 13 steamships ; 6 steam and gas pipe fitters. *Stores*,—1 agricultural implements ; 45 apothecary ; 1 auction ; 4 book ; 32 boot and shoe ; 2 carpet ; 2 carriage trimmings ; 11 cigar ; 24 clothing ; 11 confectionery ; 3 drug ; 40 dry goods ; 80 fancy goods ; 1 florist ; 11 flour and grain ; 12 fruit ; 12 furniture ; 12 gents' furnishing goods ; 144 grocery, retail ; 15 grocery, wholesale ; 11 hardware ; 2 hide and leather ; 2 hoop skirt ; 11 house furnishing goods ; 3 house paper ; 3 iron and steel ; 12 jewelry ; 14 liquor ; 1 lime and brick ; 2 manufacturers' supplies ; 33 millinery ; 10 newspaper ; 4 oil and paint ; 2 paper and paper stock ; 1 piano forte ; 7 produce, wholesale ; 3 sewing machine ; 4 stationery ; 2 stove ; 5 tea ; 2 trunk ; 1 toy ; 1 umbrella ; 2 wooden ware ; 1 wool ; 2 woolen goods. 1 State prison ; 1 store house ; 1 theatre ; 4 undertakers ; 1 United States custom house building ; 2 upholsterers ; 2 water boats ; 1 wheelwright ; 1 wood turner ; 3 wood yards ; 28 not classed.

The amount of expenditures during the last quarter, is	-	-	-	\$103,481 42
The total amount of expenditures, is				4,588,261 26
The total amount of appropriations, is				4,700,000 00
The unexpended balance, is	-	-	-	111,738 74

The cost of construction to date, (deducting from the whole amount of approved bills the cost of maintenance, the amounts received for labor and materials, &c.; meters; from sewer department for office expenses; estimated amount due from sewer department for engineering, &c.; and adding amounts to the credit of Boston hydrants and water meters,) is \$4,175,592 83

The cost of maintenance to date, is 148,702 64

The amount received during the last quarter, all of which has been paid to the City Treasurer, is

For water supplies,	-	\$20,263 39	
For water meters,	-	-	2,530 00
For penalties,	-	-	12 00
For sundries,	-	-	6,163 53
			<hr/> 28,968 92

The amount received for water in 1872, was 41,003 51

The amount received for water in 1873, was 97,386 09

The amount received for water in 1874, was 132,052 39

The amount received for water during eleven months of 1875, was - - - 155,663 22

The total amount received for water to date, is 426,105 21

The amount of all receipts to date, is 658,511 10

A schedule of bills approved during the last quarter, and of receipts during the same time, a trial balance of ledger, November 30, 1875, and a schedule of receipts for water by months, are hereunto appended and made parts of this report.

A separate report of that portion of the duties of the Board which relates to sewers will be presented.

JOSEPH J. COOKE,	}	<i>Board of Water Commissioners.</i>
CHAS. E. CARPENTER,		
WILLIAM CORLISS,		

**SCHEDULE OF BILLS APPROVED BY THE BOARD OF WATER
COMMISSIONERS FROM SEPTEMBER 1, 1875, TO NOVEMBER 30,
1875, INCLUSIVE.**

2176	George W. Olney, land in Lincoln,	-	-	\$900 00
2177	Samuel M. Gray, on account for paying laborers at Pettaconset,	-	-	500 00
2178	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	600 00
2179	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	134 50
2180	Foster S. Dennis, trenching, back-filling and laying water-pipes,	-	-	2,200 00
2181	Foster S. Dennis, carting pipes,	-	-	226 55
2182	Fuller Iron Works, special castings and valve boxes,	-	-	1,413 42
2183	Fales, Jenks & Sons, water meters,	-	-	823 15
2184	Hopkins & Pomroy, teaming,	-	-	97 25
2185	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	-	-	2,408 08
2186	Thomas Phillips & Co., tin-lined lead pipe, &c.,	-	-	804 72
2187	Tucker, Swan & Co., coal,	-	-	1,579 61
2188	Lobdell & Newmans, grooved roller,	-	-	100 00
2189	Samuel M. Gray, on account for paying laborers at Pettaconset,	-	-	500 00
2190	Hopkins & Pomroy, coal, &c.,	-	-	175 59
2191	Wood & Winsor, labor, pipe and fittings,	-	-	17 81
2192	R. S. Burrough & Co., oil,	-	-	53 12
2193	Tucker, Swan & Co., coal, &c.,	-	-	1,914 51
2194	G. M. Hopkins & Co., atlas of Providence, first, second and third wards, two copies,	-	-	24 00
2195	Ryder Reciprocal Grate Association, grate bars, &c.,	-	-	674 83
2196	Simeon Noell, on account for salary as inspector of engine work,	-	-	100 00
2197	Builders' Iron Foundry, check valves, special castings, &c.,	-	-	1,932 79
2198	Charles H. Pierce, salary as assistant engineer,	-	-	250 00
2199	Otis F. Clapp, " " " "	-	-	208 33
2200	Howard A. Carson, " " " "	-	-	250 00
2201	Charles H. Swan, " " " "	-	-	208 33
2202	William T. Schneider, " " " "	-	-	100 00
2203	John E. Bowen, " " " "	-	-	100 00
2204	Daniel D. Waterman, " " " "	-	-	83 33
2205	Lepriele Sweet, 2d, " " " "	-	-	83 33
2206	Edmund B. Weston, " " " "	-	-	83 33
2207	William M. Brown, Jr., " " " "	-	-	83 33
2208	Daniel C. Stone, " " " "	-	-	83 33
2209	Edwin P. Dawley, " " " "	-	-	83 33
2210	William F. Janes, " " service pipe "	-	-	83 33
2211	Augustus F. Nagle, " " mechanical "	-	-	200 00
2212	Frank B. Ferris, " " student, engineering department,	-	-	41 67
2213	Thomas L. Botts, " " " "	-	-	41 67
2214	William H. Olmstead, " " " "	-	-	41 67

Amount carried forward, - - - \$19,204 91

	Amount brought forward,	-	-	-	\$19,204 91
2215	George B Francis, salary as student, engineering department,	-	-	-	33 33
2216	Charles A. Harper, salary as student, engineering department,	-	-	-	33 33
2217	Alfred E. Martin, " " " " " "	-	-	-	33 33
2218	Charles F. Angell, " " " on trial, " "	-	-	-	20 00
2219	Albert L. Bodwell, " " " " " "	-	-	-	33 33
2220	Walter F. Slade, " " service pipe clerk, engineering department,	-	-	-	83 33
2221	William Aplin, salary as clerk, engineering department,	-	-	-	83 33
2222	William H. Turner, " " " " " "	-	-	-	100 00
2223	Irvin H. Potter, " " " " " "	-	-	-	58 50
2224	Andrew B. Purdy, " " superintendent of pipe work,	-	-	-	166 67
2225	William H. Patterson, salary as inspector on pipe line,	-	-	-	104 00
2226	S. Horace Wheeler, " " " of service pipes,	-	-	-	125 00
2227	Henry M. Wilcox, " " assistant inspector of service pipes,	-	-	-	100 00
2228	Frederic A. Arnold, salary as inspector of water fixtures,	-	-	-	100 00
2229	Albert C. Winsor, " " assistant inspector of water fixtures,	-	-	-	78 00
2230	Edward A. Moran, salary as inspector of meters,	-	-	-	100 00
2231	John Lyons, " " plumber, meter department,	-	-	-	38 75
2232	James H. Higgins, " " " " " "	-	-	-	65 00
2233	John Lally, " " plumber's helper, meter department,	-	-	-	20 42
2234	Simeon Noell, salary as inspector of engine work,	-	-	-	150 00
2235	Alexis C. Miller, " " keeper of Hope Reservoir,	-	-	-	77 50
2236	Jephtha Baker, " " " " Sockanosset Reservoir,	-	-	-	77 50
2237	Albert E. Angell, salary as temporary assistant, engineering department,	-	-	-	55 12
2238	George H. Slade, salary as temporary assistant, engineering department,	-	-	-	56 40
2239	Edward C. Reynolds, salary as temporary assistant, engineering department,	-	-	-	18 75
2240	George W. Winsor, Jr., salary as temporary assistant, engineering department,	-	-	-	37 50
2241	O. Frank Parkhurst, salary as temporary assistant, engineering department,	-	-	-	8 00
2242	Henry G. Dennis, salary as superintendent of pipe yard,	-	-	-	125 00
2243	Richard M. Wood, " " clerk at pipe yard,	-	-	-	83 33
2244	John Cuthbert, " " pumping engineer, Pettacomet,	-	-	-	104 17
2245	John Hamilton, " " " " " "	-	-	-	85 00
2246	George F. Barney, " " fireman, " "	-	-	-	60 00
2247	Patrick O'Rourke, " " " " " "	-	-	-	70 00
2248	John Quinn, " " pumping engineer, Hope station,	-	-	-	125 00
2249	Joseph F. Plant, " " " " " "	-	-	-	90 00
2250	Thomas Miller, " " fireman, " "	-	-	-	65 00
2251	Michael Hamill, " " " " " "	-	-	-	65 00
2252	William F. Tanner, " " axeman, -	-	-	-	49 00
2253	Jesse W. Coleman, " " commissioners' clerk, -	-	-	-	50 00
2254	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	-	75 00
2255	Thomas C. Gushee, " " " " " "	-	-	-	100 00
	Amount carried forward,	-	-	-	\$22,208 50

	Amount brought forward,	-	\$22,208 50
2256	Philip S. Chase, salary as commissioners' clerk,	-	150 00
2257	Clinton D. Sellow, " " secretary of water commissioners,	-	200 00
2258	John Purnell, " " as janitor, &c.,	-	55 96
2259	Charles H. Pierce, paid by him for sundries,	-	88 78
2260	Charles H. Pierce, " " " " labor,	-	1,116 69
2261	Samuel M. Gray, engineering services, self and assistants,	-	515 02
2262	Samuel M. Gray, paid by him for sundries,	-	88 23
2263	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	99 31
2264	Daniel F. Burlingame, repairing tools, &c.,	-	18 30
2265	Boston Machine Co., water gates,	-	305 10
2266	Gorham M'f'g Company, cups and rings for drinking fountains,	-	33 75
2267	Olney Brothers, oil,	-	43 30
2268	Robert Morrow, horse hire by engineers,	-	21 00
2269	Stephen Knobb, carting check valve to Pettaconset,	-	20 00
2270	W. E. Barrett & Co., lawn seed,	-	8 00
2271	H. B. Bowen, pipe bolts,	-	79 99
2272	Abbott Lawrence, expressage on meters,	-	12 75
2273	Buff & Berger, repairing and adjusting level,	-	20 50
2274	Holden & Lqvett, horse shoeing,	-	14 50
2275	French & MacKenzie, on account for carpenter's work, engine house at Pettaconset,	-	1,800 00
2276	James Glass, on account for slating roof of engine house at Pettaconset,	-	800 00
2277	William H. Waterman, allowance for service pipe,	-	17 73
2278	R. S. Burrough & Co., oil,	-	91 20
2279	B. F. Almy, cop waste,	-	12 00
2280	Tillinghast & Sherman, matting,	-	52 67
2281	Foster S. Dennis, extra labor laying water pipes, &c.,	-	11 12
2282	Willard F. Inman, carting pipes,	-	30 62
2283	Louis W. Clarke, repairing telegraph line,	-	10 68
2284	John West, on account for services as consulting and superintending engineer,	-	500 00
2285	Rhode Island Locomotive Works, on account for boilers and stand-pipe at Pettaconset,	-	10,000 00
2286	Samuel M. Gray, paid by him for labor,	-	2,518 53
2287	Samuel M. Gray, " " " " " "	-	368 50
2288	Providence Gas Co., gas,	-	94 38
2289	Tucker, Swan & Co., coal, &c.,	-	475 03
2290	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	1,521 54
2291	Thomas Phillips & Co., tin-lined lead pipe, &c.,	-	1,304 88
2292	Lawton & Lee, whitening walls of offices,	-	36 31
2293	Fales, Jenks & Sons, water meters,	-	507 45
2294	Foster S. Dennis, carting pipes,	-	14 93
2295	Foster S. Dennis, trenching and back-filling and laying water pipes,	-	75 00
2296	Fales, Jenks & Sons, fire hydrants, stop valves, taps and stops, &c.,	-	10,369 73
2297	Fuller Iron Works, special castings and valve boxes,	-	1,324 77
	Amount carried forward,	-	\$57,036 73

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	-	-	\$57,036 73
2298	Union Water Meter Co., water meters and repairing,	-	-	-	549 42
2299	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	-	-	378 01
2300	Tuttle & Hobbs, horse-keeping, &c.,	-	-	-	251 37
2301	Lobdell & Newmans, labor and materials at Hope station,	-	-	-	749 62
2302	Hopkins & Pomroy, drain pipe, coal, cement, &c.,	-	-	-	123 89
2303	Charles E. Jencks, labor and materials at Hope station,	-	-	-	63 65
2304	L. H. Tillinghast & Co., nickel plated bibbs, &c.,	-	-	-	53 00
2305	Wood & Winsor, labor, pipe and fittings, &c.,	-	-	-	52 04
2306	George L. Claffin & Co., sundries,	-	-	-	21 27
2307	Olney Brothers, oil,	-	-	-	11 00
2308	Hopkins & Lyon, horse shoeing,	-	-	-	6 62
2309	Hopkins & Pomroy, teaming,	-	-	-	96 75
2310	Hammond, Angell & Co., printing,	-	-	-	194 69
2311	Samuel M. Gray, on account for paying laborers,	-	-	-	500 00
2312	W. A. Burdick, Agent, reservations in bills for granite,	-	-	-	550 00
2313	Paulding, Kemble & Co., on account for constructing pump ing engine,	-	-	-	850 00
2314	Lobdell & Newmans, labor and materials at Hope station,	-	-	-	2,296 77
2315	William H. Miller & Co., blacksmith's work on tools, &c.,	-	-	-	80 75
2316	Barker, Whitaker & Co., tools, lead, &c.,	-	-	-	596 02
2317	Charles H. Pierce, salary as assistant engineer,	-	-	-	250 00
2318	Otis F. Clapp, " " " "	-	-	-	208 33
2319	Howard A. Carson, " " " "	-	-	-	250 00
2320	Charles H. Swan, " " " "	-	-	-	208 33
2321	William T. Schneider, " " " "	-	-	-	100 00
2322	John E. Bowen, " " " "	-	-	-	100 00
2323	Daniel D. Waterman, " " " "	-	-	-	83 33
2324	Leprillete Sweet, 2d, " " " "	-	-	-	83 33
2325	Edmund B. Weston, " " " "	-	-	-	83 33
2326	William M. Brown, Jr., " " " "	-	-	-	83 33
2327	Daniel C. Stone, " " " "	-	-	-	83 33
2328	Edwin P. Dawley, " " " "	-	-	-	83 33
2329	William F. Janes, " " service pipe " "	-	-	-	83 33
2330	Augustus F. Nagle, " " mechanical " "	-	-	-	200 00
2331	Frank B. Ferris, " " student, engineering de partment,	-	-	-	41 67
2332	Thomas L. Bots, salary as student, engineering department,	-	-	-	41 67
2333	William H. Olmstead, salary as student, " "	-	-	-	41 67
2334	George B. Francis, " " " " " "	-	-	-	33 33
2335	Charles A. Harper, salary as student, engineering depart- ment,	-	-	-	33 33
2336	Alfred E. Martin, salary as student, engineering department,	-	-	-	30 11
2337	Albert L. Bodwell, " " " " " "	-	-	-	33 33
2338	Walter F. Slade, " " service pipe clerk, engineering department,	-	-	-	83 33
2339	William Aplin, salary as clerk, engineering department,	-	-	-	83 33
2340	William H. Turner, " " " " " "	-	-	-	100 00
2341	Irvin H. Potter, " " " " " "	-	-	-	58 50
2342	Andrew B. Purdy, " " superintendent of pipe work,	-	-	-	166 67
	Amount carried forward,	-	-	-	\$67,108 51

	Amount carried forward,	-	-	-	\$67,108 51
2343	William H. Patterson, salary as inspector on pipe line,	-	-	-	104 00
2344	S. Horace Wheeler, " " of service pipes,	-	-	-	125 00
2345	Henry M. Wilcox, " " assistant inspector of service pipes,	-	-	-	100 00
2346	Frederic A. Arnold, salary as inspector of water fixtures,	-	-	-	100 00
2347	Albert C. Winsor, " " assistant inspector of water fixtures,	-	-	-	78 00
2348	Edward A. Moran, salary as inspector of meters,	-	-	-	100 00
2349	William Clancey, " " plumber, meter department,	-	-	-	42 50
2350	James H. Higgins, " " " " "	-	-	-	65 00
2351	John Lally, " " plumber's helper, meter department,	-	-	-	20 00
2352	Alexis U. Miller, salary as keeper of Hope Reservoir,	-	-	-	75 00
2353	Jeptha Baker, " " " " Sockanosset Reservoir,	-	-	-	75 00
2354	Albert E. Angell, " " temporary assistant, engineering department,	-	-	-	45 50
2355	George H. Slade, salary as temporary assistant, engineering department,	-	-	-	38 80
2356	Edward C. Reynolds, salary as temporary assistant, engineering department,	-	-	-	39 00
2357	George W. Winsor, Jr., salary as temporary assistant, engineering department,	-	-	-	37 50
2358	Henry G. Dennis, salary as superintendent of pipe yard,	-	-	-	125 00
2359	Richard M. Wood, " " clerk at pipe yard,	-	-	-	83 33
2360	John Cuthbert, " " pumping engineer, Pettaconset,	-	-	-	104 17
2361	John Hamilton, " " " " "	-	-	-	85 00
2362	George F. Barney, " " fireman, Pettaconset,	-	-	-	60 00
2363	Patrick O'Rourke, " " " " "	-	-	-	70 00
2364	John Quinn, " " pumping engineer, Hope station,	-	-	-	125 00
2365	Joseph F. Plant, " " " " "	-	-	-	90 00
2366	Thomas Miller, " " fireman, Hope station,	-	-	-	65 00
2367	Michael Hamill, " " " " "	-	-	-	65 00
2368	William F. Tanner, " " axeman,	-	-	-	48 00
2369	Jesse W. Coleman, " " commissioners' clerk,	-	-	-	50 00
2370	Leonard N. Austin, Jr., salary as commissioners' clerk,	-	-	-	75 00
2371	Thomas C. Gushee, " " " " "	-	-	-	100 00
2372	Philip S. Chase, " " " " "	-	-	-	150 00
2373	Clinton D. Sellew, " " secretary of water commissioners,	-	-	-	200 00
2374	John Purnell, salary as janitor, &c.,	-	-	-	55 93
2375	Charles H. Pierce, paid by him for sundries,	-	-	-	57 94
2376	Charles H. Pierce, paid by him for labor,	-	-	-	972 50
2377	Samuel M. Gray, engineering services, self and assistants,	-	-	-	499 55
2378	Samuel M. Gray, paid by him for sundries,	-	-	-	80 10
2379	Samuel M. Gray, " " " " labor,	-	-	-	92 09
2380	Clinton D. Sellew, " " " " sundries,	-	-	-	44 03
2381	Daniel F. Burlingame, repairing tools, &c.,	-	-	-	18 49
2382	Providence Steam and Gas Pipe Co., pipe and fittings,	-	-	-	23 07
2383	Mason, Chapin & Co., sulphur, muriatic acid, &c.,	-	-	-	30 76

Amount carried forward, - - - \$71,523 77

REPORT OF THE WATER COMMISSIONERS.

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	Amount brought forward,	-	-	\$71,523 77
2384	Preston & Spaulding, candles, soda, &c.,	-	-	7 14
2385	Builders Iron Foundry, fence posts, special castings, &c.,	-	-	1,438 62
2386	George W. Smith, cutting curbstones for hydrant boxes, &c.,	-	-	15 00
2387	John H. Eddy, brooms and pails,	-	-	5 10
2388	W. P. Knickerbocker & Co., rope,	-	-	19 50
2389	W. P. Knickerbocker & Co., rope,	-	-	57 00
2390	Abbott Lawrence, expressage on meters,	-	-	18 60
2391	J. W. Moore, paper strips,	-	-	11 13
2392	Edward T. Caswell, M. D., professional services; Simeon Noell, (charged to Paulding, Kemble & Co.,)	-	-	15 00
2393	Oliver Johnson & Co., red lead and white lead,	-	-	12 75
2394	W. E. Barrett & Co., lawn seed,	-	-	10 00
2395	Union Water Meter Co., meters and repairing meters,	-	-	631 00
2396	Samuel M. Gray, on account for paying laborers at Pettaconset,	-	-	500 00
2397	Lobdell & Newmans, on account of reservations in bills for constructing Hope Reservoir,	-	-	5,000 00
2398	Foster S. Dennis, trenching and back-filling and laying water pipes,	-	-	650 00
2399	Foster S. Dennis, carting pipes,	-	-	73 40
2400	Samuel M. Gray, on account for paying laborers at Pettaconset,	-	-	1,000 00
2401	Paulding, Kemble & Co., on account for constructing pump- ing engine,	-	-	584 61
2402	T. & W. Breck, rent of offices, &c.,	-	-	877 50
2403	Bugbee & Hall, stationery, &c.,	-	-	136 43
2404	Tucker, Swan & Co., coal, &c.,	-	-	525 99
2405	Samuel M. Gray, paid by him for labor at Pettaconset, &c.,	-	-	2,777 94
2406	James Glass, labor, &c., engine house at Pettaconset,	-	-	1,069 39
2407	R. S. Burrough & Co., oil,	-	-	51 28
2408	Fales, Jenks & Sons, water meters,	-	-	170 15
2409	Fuller Iron Works, special castings and valve boxes,	-	-	1,191 58
2410	William Elsbree, teaming,	-	-	60 02
2411	William H. Miller & Co., rods and nuts, repairing tools, &c.,	-	-	163 01
2412	Hopkins & Pomroy, coal, hair, pipe, teaming, &c.,	-	-	212 21
2413	Wood & Winsor, labor, pipe and fittings,	-	-	25 18
2414	William B. Blanding, apothecary's supplies, Simeon Noell, (charged to Paulding, Kemble & Co.,)	-	-	34 30
2415	Paulding, Kemble & Co., on account for constructing pumping engine,	-	-	500 00
2416	Yetter & Wack, sprinkling street,	-	-	10 00
2417	Dexter Gorton & Co., carpenter's work, lumber, &c.,	-	-	77 96
2418	J. Herbert Shedd, salary as chief engineer,	-	-	2,000 00
2419	Charles H. Pierce, " " assistant engineer,	-	-	250 00
2420	Otis F. Clapp, " " " " "	-	-	208 38
2421	Howard A. Carson, " " " " "	-	-	250 00
2422	Charles H. Swan, " " " " "	-	-	208 38
2423	William T. Schneider, " " " " "	-	-	100 00
2424	John E. Bowen, " " " " "	-	-	100 00
2425	Daniel D. Waterman, " " " " "	-	-	83 38
2426	Leprilote Sweet, 2d, " " " " "	-	-	83 38
	Amount carried forward,	.	.	\$92,738 83

	Amount brought forward,	\$92,738 83
2427	Edmund B. Weston, salary as assistant engineer,	83 33
2428	William M. Brown, Jr., " " " "	83 33
2429	Daniel C. Stone, " " " "	83 33
2430	Edwin P. Dawley, " " " "	83 33
2431	William F. Janes, " " service pipe engineer,	83 33
2432	Augustus F. Nagle, " " mechanical " "	150 00
2433	Frank B. Ferris, " " student, engineering department,	41 67
2434	Thomas L. Botts, " " " " " "	41 67
2435	William H. Olmstead, " " " " " "	41 67
2436	George B. Francis, " " " " " "	33 33
2437	Charles A. Harper, " " " " " "	33 33
2438	Albert L. Bodwell, " " " " " "	33 33
2439	Walter F. Slade, " " service pipe clerk, engineer's dep't,	83 33
2440	William Aplin, " " clerk, engineering department,	83 33
2441	William H. Turner, " " " " " "	100 00
2442	Irvin H. Potter, " " " " " "	59 62
2443	Andrew B. Purdy, " " superintendent of pipe work,	165 67
2444	William H. Patterson, " " inspector on pipe line,	104 00
2445	S. Horace Wheeler, " " " of service pipes,	125 00
2446	Henry M. Wilcox, " " assistant inspector of service pipes,	100 00
2447	Frederic A. Arnold, " " inspector of water fixtures,	190 00
2448	Albert C. Winsor, " " assistant inspector of water fixtures,	75 00
2449	Edward A. Moran, salary as inspector of water meters,	100 00
2450	William Clancey, " " plumber, meter department,	50 00
2451	James H. Higgins, " " " " " "	57 50
2452	John Lally, " " plumber's helper " " "	18 33
2453	George W. Mitchell, " " inspector at Hope Reservoir,	23 00
2454	Alexis C. Miller, " " keeper of Hope Reservoir,	77 50
2455	Jeptha Baker, " " " " Sockanosset Reservoir,	77 50
2456	Albert E. Angell, salary as temporary assistant, eng' dep't,	45 50
2457	George H. Slade, " " " " " "	42 40
2458	Edward C. Reynolds, " " " " " "	40 50
2459	Geo. W. Winsor, Jr., " " " " " "	37 50
2460	Everett H. Sweet, " " " " " "	19 50
2461	Henry G. Dennis, " " superintendent of pipe yard,	125 00
2462	Richard M. Wood, " " clerk at pipe yard,	83 33
2463	John Cuthbert, " " pumping engineer, Pettacoonset,	104 17
2464	John Hamilton, " " " " " "	85 00
2465	George F. Barney, " " fireman, " " "	60 00
2466	Patrick O'Rourke, " " " " " "	70 00
2467	John Quinn, " " pumping engineer, Hope station,	125 00
2468	Joseph F. Plant, " " " " " "	90 00
2469	Thomas Miller, " " fireman, " " "	65 00
2470	Michael Hamill, " " " " " "	65 00
2471	William F. Tanner, " " axeman, " " "	54 00
2472	Jesse W. Coleman, " " commissioners' clerk,	50 00
2473	Leonard N. Austin, Jr., salary as " " " "	75 00
2474	Thomas C. Gushee, " " " " " "	100 00
2475	Phillip S. Chase, " " " " " "	150 00
	Amount carried forward,	\$96,418 16

	Amount brought forward,	\$98,418 16
2476	Clinton D. Sellew, salary as secretary of water commissioners,	200 00
2477	William Corliss, " " water commissioner,	500 00
2478	Chas. E. Carpenter, " " " "	500 00
2479	Joseph J. Cooke, " " " "	500 00
2480	John Purnell, " " janitor, &c.,	56 56
2481	Charles H. Pierce, paid by him for sundries,	197 47
2482	Charles H. Pierce, paid by him for labor,	1,220 40
2483	Samuel M. Gray, engineering services, self and assistants,	450 06
2484	John West, on account for services as consulting and super- tending engineer,	700 00
2485	Olney Brothers, oil,	11 16
2486	Wm. M. Bender & Co., sole tile,	526 15
2487	Thomas Phillips & Co., tin lined lead pipe, &c.,	691 06
2488	Thomas Phillips & Co., on account for labor and materials, engine house at Pettaconset,	1,000 00
2489	George W. Smith, cutting stone for hydrant boxes, &c.,	10 00
2490	Abbott Lawrence, expressage on meters,	16 90
2491	Union Water Meter Co., water meters, &c.,	480 50
		<hr/>
		\$103,481 42

RECEIVED FROM SEPTEMBER 1, 1875, TO NOVEMBER 30, 1875, IN-
CLUSIVE, AND PAID TO THE CITY TREASURER.

1875.

Sept. 10.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to September 12, 1875,	\$14 58
16.	Of Fuller Iron Works, for scrap iron,	163 00
29.	Of Samuel M. Gray, for sundries,	8 05
	Of City of Providence, for sewer expenses,	4,201 82
Oct. 1.	Of Henry L. Johnson, for three months' rent of land in Pawtuxet, to October 1, 1875,	21 75
	Of heirs of Joseph Harris, for labor and materials,	32 58
4.	Of Peleg P. Cranston, for three months' rent of "Randall estate," so called, to October 1, 1875,	50 00
	Of Howard A. Carson, for services of student,	1 00
13.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to October 12, 1875,	14 58
	Of Samuel M. Gray, for sundries,	5 29
27.	Of City of Providence, for sewer expenses,	225 78
	Of G. B. & W. F. Inman, for labor and materials,	5 29
30.	Of Henry G. Dennis, for cast iron water pipe,	6 17
Nov. 1.	Of B. G. Palmer, Jr., for drain tiles,	10 00
16.	Of Daniel M. Lufkin, for one month's rent of farm in Warwick, purchased of Miss Patience W. Chace, to November 12, 1875,	14 58
30.	For setting and repairing meters during the present quarter,	766 48
	For laying service pipes during the present quarter,	617 58
	For penalties during the present quarter,	12 00
	For meters during the present quarter,	2,530 00
	For water during the present quarter,	20,263 39
		<hr/> \$28,968 92

TRIAL BALANCE OF LEDGER, NOVEMBER 30, 1875.

Dr.

Hope reservoir, for land,	\$117,865 63
" " " sundries,	1,773 03
" " " labor,	6,692 63
" " " gate chambers,	11,561 63
" " " drain,	1,927 39
" " " inspection,	8,614 26
" " " conduit,	3,746 18
" " " slope wall,	43,127 81
" " " gate houses,	3,119 79
" " " steps,	3,103 01
" " " iron railing,	1,418 81
" " " improvement of grounds,	1,056 67
" " " fence,	656 91
Hope engine house,	105,186 89
Sockanosset reservoir, for construction,	177,870 72
" " " sundries,	124 45
" " " land,	14,435 38
" " " gate houses,	18,634 15
" " " drain,	2,658 99
" " " inspection,	6,819 18
" " " extra work and materials,	189 70
" " " gate chambers,	19,299 27
" " " improvement of grounds,	11,837 69
" " " steps,	3,235 94
Lincoln reservoir, for land,	2,946 54
Line of leading mains, for labor and materials,	19,950 30
" " " extra trenching, &c.,	472 45
" " " land and damages,	1,665 00
Force main line, for land and damages,	3,006 36
" " " labor and materials,	6,299 35
" " " extra trenching, &c.,	332 56
Office furniture, stoves, gas fixtures, &c.,	1,305 03
Rent of offices,	2,777 78
Books, stationery, &c.,	653 20
Fuel and lights,	219 12
Horse hire by commissioners,	19 00
Travelling expenses of commissioners,	161 92
Janitor of rooms,	465 91
Commissioners' salaries,	21,542 17
Secretary's salary,	2,655 54
Clerks' salaries,	3,986 53
Sundries,	401 37
Printing,	2,198 63
Amount carried forward,	\$836,014 65

Amount brought forward,	\$636,014 65
Advertising,	1,929 88
Fences,	2,075 38
Rent of wharves and pipe yards,	6,144 03
Stop valves,	72,988 18
Linking curved pipes,	232 75
Storehouse and work shop,	1,208 98
Tools,	11,201 84
Labor on pipes,	17,724 32
Cast iron water pipes,	1,333,318 40
Special castings,	103,391 22
Lumber,	1,576 30
Fire hydrants,	105,526 46
Sockanoeset hill cross road,	3,855 38
Telegraph lines,	2,242 32
Dwelling houses at Pettaconset,	10,063 75
Culverts and bridge on line of force mains,	6,775 33
Culverts at Pettaconset,	3,557 92
Real estate in Warwick,	11,486 85
Water privileges, mill, and other real estate in Pawtuxet,	45,631 15
Pochasset bridge,	5,559 82
Wharf salaries,	10,749 47
Temporary engine house at Pettaconset,	9,815 33
Roads, slopes, &c., at Pettaconset,	12,042 96
Engine house at Pettaconset,	305,917 64
Natural filter basin,	41,518 35
Removing loam,	462 95
Iron screw piles,	3,766 46
Hydrant bolts,	1,940 78
Pipe bolts,	1,933 70
Photographs,	328 25
Hydrant heads,	7,443 00
Taps and stops,	18,584 64
Valve covers,	9,377 56
Service pipe,	49,278 35
Hydrant boxes,	29,201 67
Setting fire hydrants,	10,701 06
Check valves,	2,562 48
Valve boxes,	33,408 79
Air cocks, boxes, covers and setting,	537 02
Setting blow-offs,	331 49
Pettaconset pumping station, for land,	25,902 12
Lobdell & Newmans,	188,025 00
A. & W. Sprague Manufacturing Co.,	2,500 00
Samuel M. Gray,	1,000 00
Paulding, Kemble & Co.,	104,834 06
Thomas Phillips & Co.,	3,583 84
James Glass,	4,395 26
Providence Steam Engine Co.,	22,018 12
Amount carried forward,	\$3,284,655 25

REPORT OF THE WATER COMMISSIONERS.

25

Amount brought forward . . .	\$3,284,655 25
Rhode Island Locomotive Works, . . .	28,145 71
Foster S. Dennis, . . .	11,425 00
Architectural Iron Works, . . .	30,502 91
French & Mackenzie, . . .	1,800 00
Akron Sewer Pipe Association, . . .	54 00
Sewer department, salaries and office expenses, . . .	1,213 32
City Treasurer, . . .	232,405 89
City Treasurer, for water payments, . . .	426,105 21
Testing pipe iron, . . .	443 50
Iron drain pipes and gate, . . .	224 21
Carting pipes, . . .	40,181 04
Counsel fees, . . .	5,500 00
Inspection of pipes, . . .	10,562 23
Testing bolts and composition castings, . . .	34 25
Laying water pipes, . . .	390,419 62
Laying service pipes, . . .	31,741 27
Laying suction pipe, &c., . . .	85 00
Drainage pump and engine, . . .	5,110 72
Hydrants for street sprinklers, . . .	2,636 90
Inspection of pipe laying, . . .	32,741 13
Temporary boarding house at Pettaconset, . . .	1,429 73
Public drinking fountains and troughs, . . .	3,311 96
Warwick test pits, . . .	1,313 40
Engine house at Pettaconset, for drain, . . .	2,132 37
Water meters set, belonging to the city, . . .	1,258 72
Worthington pumping engine, . . .	35,522 33
Hope pumping engine, . . .	63,104 67
Cornish pumping engine, . . .	8,683 65
Keeper's house at Sockanosset reservoir, . . .	7,088 84
Pipe in river embankment at Pettaconset, . . .	4,067 82
Inspection of engine work, . . .	4,387 08
Alterations at Hope pumping station for second engine, . . .	734 63
Boilers for Cornish engine, . . .	7,066 99
Stand pipe at Pettaconset, . . .	75 08
Drain tiles, . . .	516 15
	<hr/> \$4,676,680 62

ENGINEERING DEPARTMENT:—

For Instruments, . . .	3,365 79
Tools, . . .	734 12
Furniture, stoves, gas fixtures, &c., . . .	2,886 42
Draughting, . . .	3,523 52
Labor, . . .	9,518 18
Horse and wagon account, . . .	2,748 42
Horse keeping, shoeing, &c., . . .	2,598 37
Horse hire, . . .	5,190 65
Rent of offices, . . .	6,887 42
Amounts carried forward, . . .	<hr/> \$37,472 89 \$4,676,680 62

Amounts brought forward,	\$37,472 89	\$4,676,680 62
Fuel and lights,	710 27	
Janitor of rooms,	1,271 54	
Experimental filter,	91 08	
Books, stationery, &c.,	3,502 84	
Sundries,	3,730 86	
Test wells,	1,579 40	
Consultations,	827 08	
Office building at Pettaconset,	567 60	
" " " Sockanosset reservoir,	563 22	
Stakes and strips,	1,313 71	
Printing,	656 25	
Maps,	129 42	
Service pipe experiments,	296 04	
Temporary assistance,	10,590 95	
Salaries,	127,387 48	
		\$190,690 63

MAINTENANCE:—

Hope pumping station, for coal and wood,	8,835 89	
" " " " engineers,	3,727 56	
" " " " firemen,	2,254 65	
" " " " lights,	1,570 42	
" " " " sundries,	656 02	
" " " " night and Sunday watch,	41 23	
" " " " labor on fuel,	4 56	
Pettaconset pumping station, for coal and wood,	27,815 50	
" " " " engineers,	7,068 35	
" " " " firemen,	6,257 03	
Pettaconset pumping station, for labor on fuel,	2,598 07	
" " " " sundries,	5,082 72	
" " " " night and Sunday watch,	2,822 33	
Sockanosset reservoir, for watch,	3,559 25	
" " " " sundries,	6,797 37	
Hope reservoir, for watch,	390 00	
Ascertaining and removing nuisances on Pawtuxet river,	479 46	
Worthington pumping engine,	7,678 89	
Hope pumping engine,	4 66	
Miller boilers at Pettaconset,	137 86	
Change of grades,	2,193 17	
Inspection of water fixtures,	5,184 79	
Repairs on pipe line,	8,855 70	
Meter testing room,	270 91	
Setting, inspection and repair of meters,	702 07	
Commissioners' salaries,	7,833 39	
Secretary's salary,	2,655 61	
Clerks' salaries,	6,096 69	
Rent of offices,	1,315 26	

Amounts carried forward, . . . \$122,889 40 \$4,867,371 25

REPORT OF THE WATER COMMISSIONERS.

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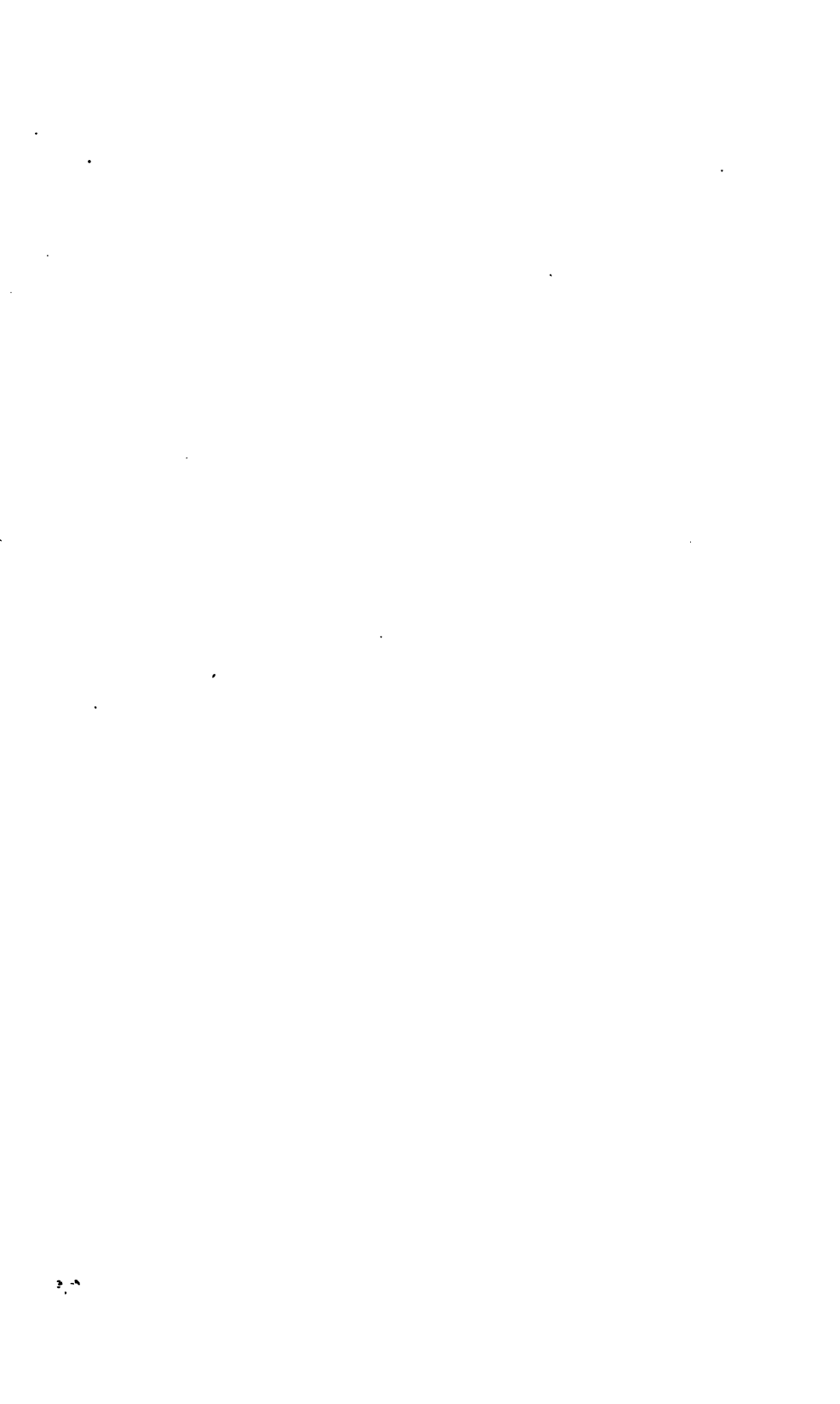
Amounts brought forward,	.	.	\$122,889 40	\$4,867,371 25
Fuel and lights,	.	.	58 73	
Janitor of rooms,	.	.	262 94	
Books, stationery, &c.,	.	.	646 86	
Printing,	.	.	676 48	
Advertising,	.	.	83 41	
Sundries,	.	.	343 59	
Counsel fees,	.	.	1,000 00	
Thawing pipes, gates, &c.,	.	.	1,264 82	
Supplying water takers, by reason of frost,	.	.	1,280 38	
Engineering department, for rent of offices,	.	.	2,736 52	
“ “ “ fuel and lights,	.	.	135 15	
“ “ “ janitor of rooms,	.	.	537 27	
“ “ “ books, stationery, &c.,	.	.	184 67	
“ “ “ printing,	.	.	166 07	
“ “ “ salaries,	.	.	16,421 01	
“ “ “ sundries,	.	.	15 34	148,702 64
				<hr/>
				\$5,016,073 89

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Boston hydrants,	.	.	29 07	
Water meters,	.	.	1,326 35	
Penalties,	.	.	352 00	
Water,	.	.	426,105 21	
Approved bills,	.	.	4,588,261 26	
				<hr/>
				\$5,016,073 89

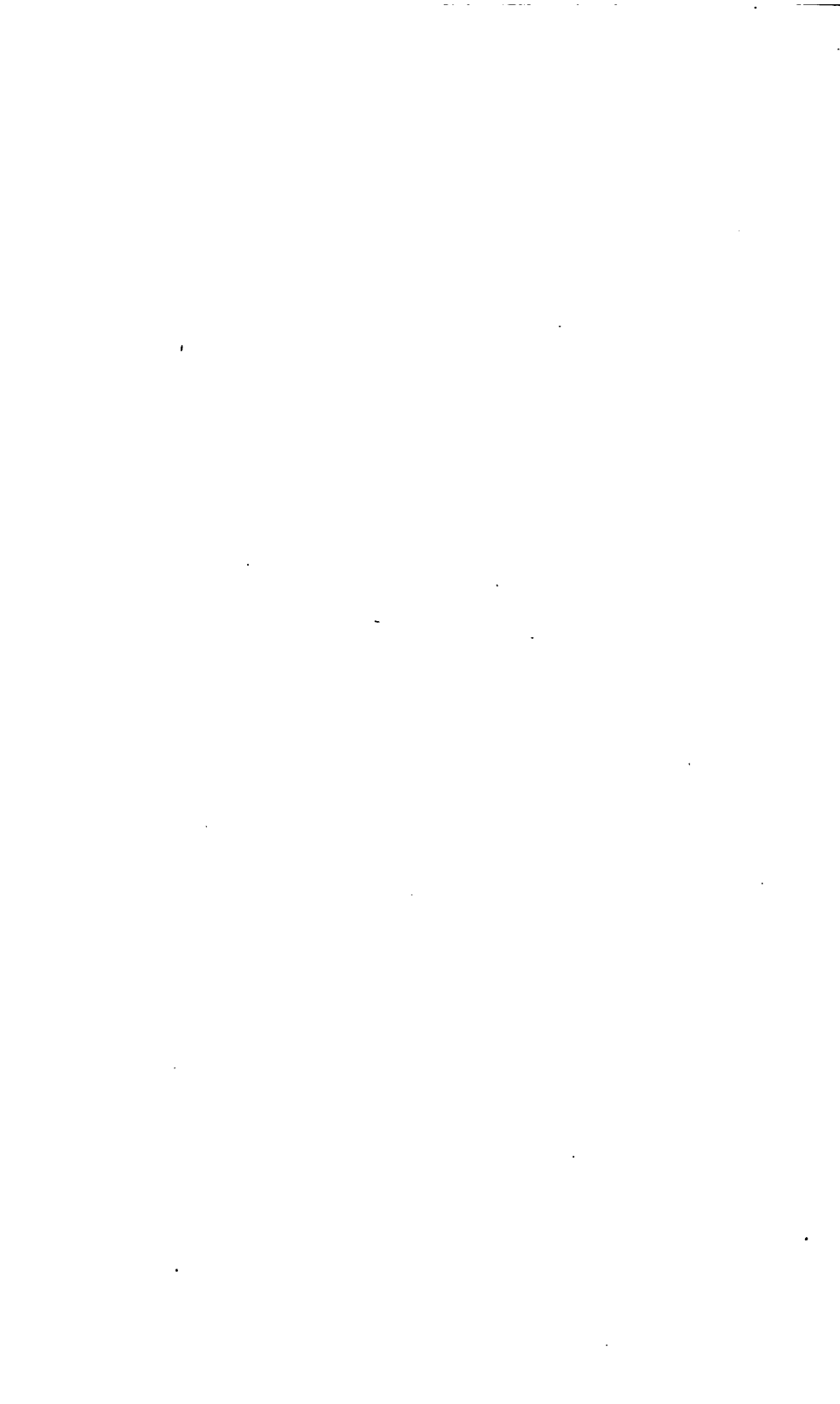
**SCHEDULE OF RECEIPTS FOR WATER, BY MONTHS, FROM
COMMENCEMENT TO NOVEMBER 30, 1875, INCLUSIVE.**

MONTHS.	1872	1873.	1874.	1875.
January.....		\$40,699 09	\$69,356 70	\$92,102 10
February.....	\$796 06	4,314 80	3,678 96	4,674 19
March.....	6,671 82	6,669 73	9,221 19	4,777 42
April.....	1,668 59	2,810 07	4,936 98	10,093 32
May.....	2,063 41	1,766 28	2,338 59	2,574 92
June.....	8,634 89	8,228 92	2,583 35	8,140 99
July.....	3,488 27	6,214 24	13,756 51	9,035 25
August.....	1,818 14	1,441 09	1,953 37	4,001 06
September.....	4,933 44	7,550 64	5,541 34	5,393 34
October.....	5,079 08	8,745 53	9,097 95	13,578 46
November.....	477 04	872 83	1,511 03	1,291 59
December.....	5,372 77	8,072 87	8,076 42
	\$41,003 51	\$97,386 09	\$132,052 89	\$155,663 22





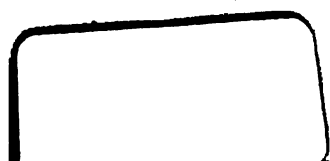












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Quarterly report.
Cabot Science

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